

CSR Report 2012

Corporate Social Responsibility Report

PDF version



Editorial Policy

Mitsubishi Chemical issues the Mitsubishi Chemical CSR Report with the aim of reporting to all stakeholders on the initiatives being undertaken to achieve *KAITEKI* as a member of the Mitsubishi Chemical Holdings Group.

The pages of the CSR Report 2012 are arranged based on Sustainability, Health and Comfort, the criteria by which we judge our business activities aimed at achieving *KAITEKI*, as well as the Management of SUSTAINABILITY (MOS) indexes that visualize the progress of these initiatives.

In the three sections for Management Structure, Responsible Care Activities (safety and disaster prevention, occupational health and safety, environmental conservation, quality assurance and chemical products management) and Together with Stakeholders, measures that form the foundation to support innovative technologies and products are also featured.

CSR Report

To disclose the CSR information to a greater number of stakeholders while at the same time considering the environment, we have changed the reporting method since fiscal 2010 from printed reports to website-based publication.

The website offers CSR Report 2012 (PDF version so the entire CSR information can be downloaded) and the CSR Report 2012 Data Section that compiles detailed data on safety, environment and society.

Reporting period

Fiscal 2011 (April 2011 to March 2012)

* Part of the contents also relates to fiscal 2012

Scope covered in the Report

The scope covered in the Report is Mitsubishi Chemical Corporation and domestic and overseas Group companies. However, the scope for compiling performance data related to RC activities is limited to Mitsubishi Chemical (including Group companies located on the same premises of Mitsubishi Chemical production bases) and those companies implementing Mitsubishi Chemical Group RC Activities that are subsidiaries of Mitsubishi Chemical as stipulated by the Japanese Companies Act (domestic). The scope of social skills data includes employees of Mitsubishi Chemical Corporation (including employees transferred to Group companies).

Referenced guidelines

-Ministry of the Environment: Environmental Reporting Guidelines 2007

-Global Reporting Initiative (GRI): Sustainability Reporting Guidelines (Ver. 3.1)

-Ministry of the Environment: Environmental Accounting Guidelines 2005

Issuance

September 2012

Previous issuance: September 2011; next issuance: September 2013 (planned)

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Disclaimer

This report contains not only past and present facts about the Mitsubishi Chemical Group, but also forecasts related to social situations, business plans, policies and estimates of their outcomes. These forecasts and estimates are assumptions or judgments based on the information available at the time of statement. As such, there are possibilities that the future social situations and outcomes of business activities could differ from the forecasts and estimates.

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Message from the CEO

Harnessing the wisdom of chemistry and providing safe and reliable products and technologies, we will contribute to achieving *KAITEKI*.

Hiroaki Ishizuka
Representative Director, Member of the Board,
President and Chief Executive Officer
Mitsubishi Chemical Corporation



Society is now facing numerous global challenges, such as climate change, a paradigm shift of energy and resources, an uneven supply of food and water resources, and an increasingly internationalized and complex economy.

In this environment, the Mitsubishi Chemical Holdings Corporation (MCHC) Group has proposed the concept of *KAITEKI* to develop better relationships among people, society, and the planet. We strive to embody this concept by harnessing the “wisdom of chemistry.”

As a member of the MCHC Group, the Mitsubishi Chemical Group also manages its corporate activities based on this policy. For instance, in the industrial materials domain, we have not only been restructuring and redeveloping businesses related to petrochemicals with a focus on high-performance materials and globalization; we are also striving to use sustainable resources. In the performance products domain, the Group positions as growth drivers businesses that contribute to society in terms of the environment and new energy, such as organic photovoltaic modules/materials, lithium ion battery materials, white LED lighting/materials, organic EL, and businesses that support comfortable living based on the concept of *KAITEKI*, such as performance food ingredients, specialty chemicals, and a range of other performance products. The Group has been taking action with a focus on these businesses. Including the carbon-related businesses that are considered the origins of Mitsubishi Chemical as well as established healthcare-related businesses, each of these businesses is able to respond to the social challenges described above by harnessing the wisdom of chemistry.

With maintaining its focus on the competitive businesses described above, the Group has been seeking to develop its operations in a sustainable way by restructuring its businesses, especially the commodity petrochemicals business. Yet even as we proceed with this restructuring, we will maintain our employees' working environment. We also position the assurance of safety, compliance with regulations and corporate ethics, and awareness of human rights as priorities that lie at the core of our corporate activities, and we will continue to make constant efforts to attain higher levels in these areas.

With customers, business partners, members of local communities and society, as well as its employees, the MCC Group will contribute to achieving *KAITEKI* by offering solutions to social challenges through the provision of safe and reliable products and technologies.

KAITEKI signifies state of sustainability, materializing comfort for people, comfort for society and comfort for the Earth.

We will act accordingly.

The Mitsubishi Chemical Group's Corporate Social Responsibility

The Mitsubishi Chemical Group (MCHC) aims to achieve *KAITEKI* as a member of the Mitsubishi Chemical Holdings Group.

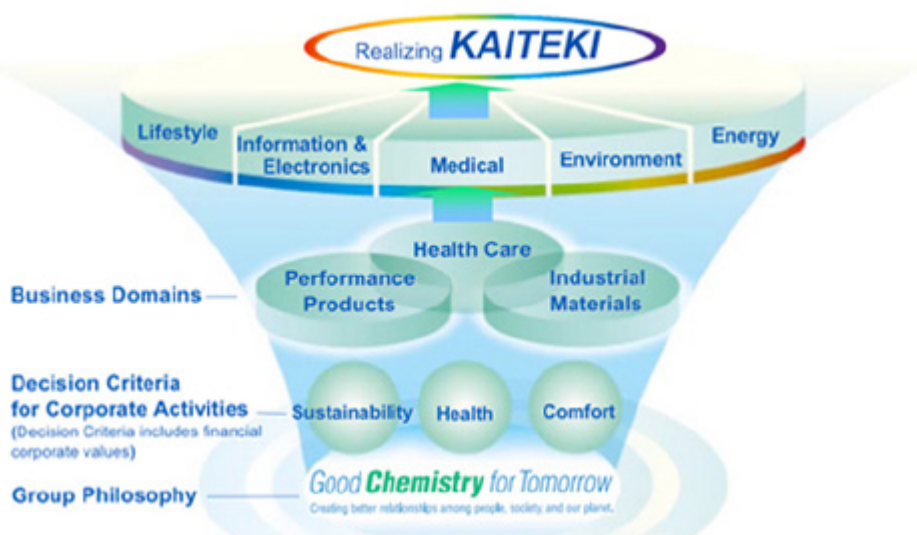
The Mitsubishi Chemical Holdings Group's basic approach to social responsibilities

We will contribute to achieving *KAITEKI* based on three decision criteria for our corporate activities: Sustainability, Health, and Comfort.

In view of the MCHC Group's philosophy "Good Chemistry for Tomorrow – Creating better relationships among people, society, and our planet," we believe that we have a responsibility to put *KAITEKI* into practice, by disseminating the idea of *KAITEKI* value widely across society, through our corporate activities based on the three decision criteria of Sustainability, Health, and Comfort.

To achieve that, we will commit to maintaining and reinforcing basic corporate activities in areas that are essential to enhancing *KAITEKI* value, including corporate governance, safety, the environment, labor and human rights, aiming to contribute to the sustainable development of society.

● Our aspirations here at the MCHC Group



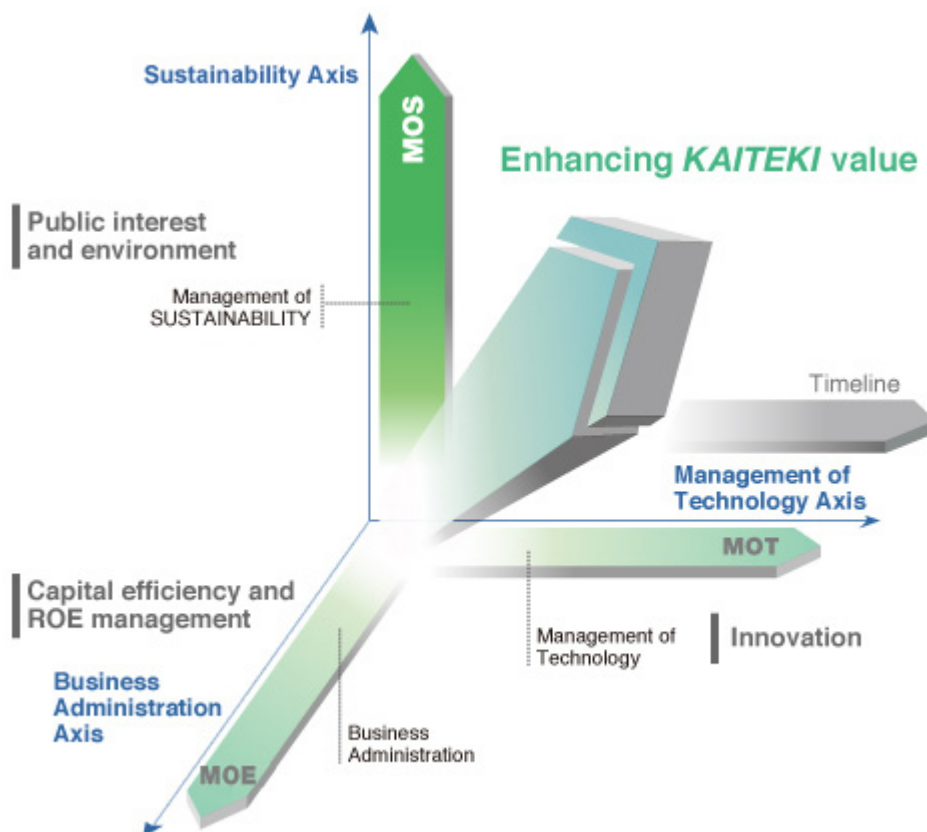
KAITEKI means a state of true sustainability, and also represents comfort for people, comfort for society, and comfort for the Earth. MCHC promotes *KAITEKI* as worthy aspiration for companies all over the world in the 21st century.

Achieving *KAITEKI* at the Mitsubishi Chemical Group

MOS indexes of the MCHC Group

The MCHC Group manages the Group based on three axes: one axis aimed at enhancing earnings and other forms of economic value (MOE axis), one axis aimed at advancing technology management (MOT axis), and one axis aimed at achieving sustainability for people, society, and the planet (Management of SUSTAINABILITY:MOS axis).

● MCHC's *KAITEKI* Management



For the MOS axis, we set MOS indexes that indicate the degree of contribution to SUSTAINABILITY. We aim to increase *KAITEKI* value by setting targets based on these indexes and implement action plans accordingly. MOS indexes consist of nine issues and specific indicators that MCHC works on for contributing to the achievement of *KAITEKI*, along the decision criteria for our corporate activities ; "Sustainability," "Health," and "Comfort." For these MOS indexes, we set targets to achieve by fiscal 2015 and monitor the progress we make toward the achievement of *KAITEKI* as the ultimate goal. Monitoring MOS indexes is undertaken once a year.

As our initiative for achieving *KAITEKI*, the Mitsubishi Chemical Group will continue contributing to achieving the 2015 targets for fiscal 2015 the MOS indexes of the MCHC Group. We position these activities, which are aimed at achieving *KAITEKI*, as encompassing our corporate social responsibility (CSR) activities.

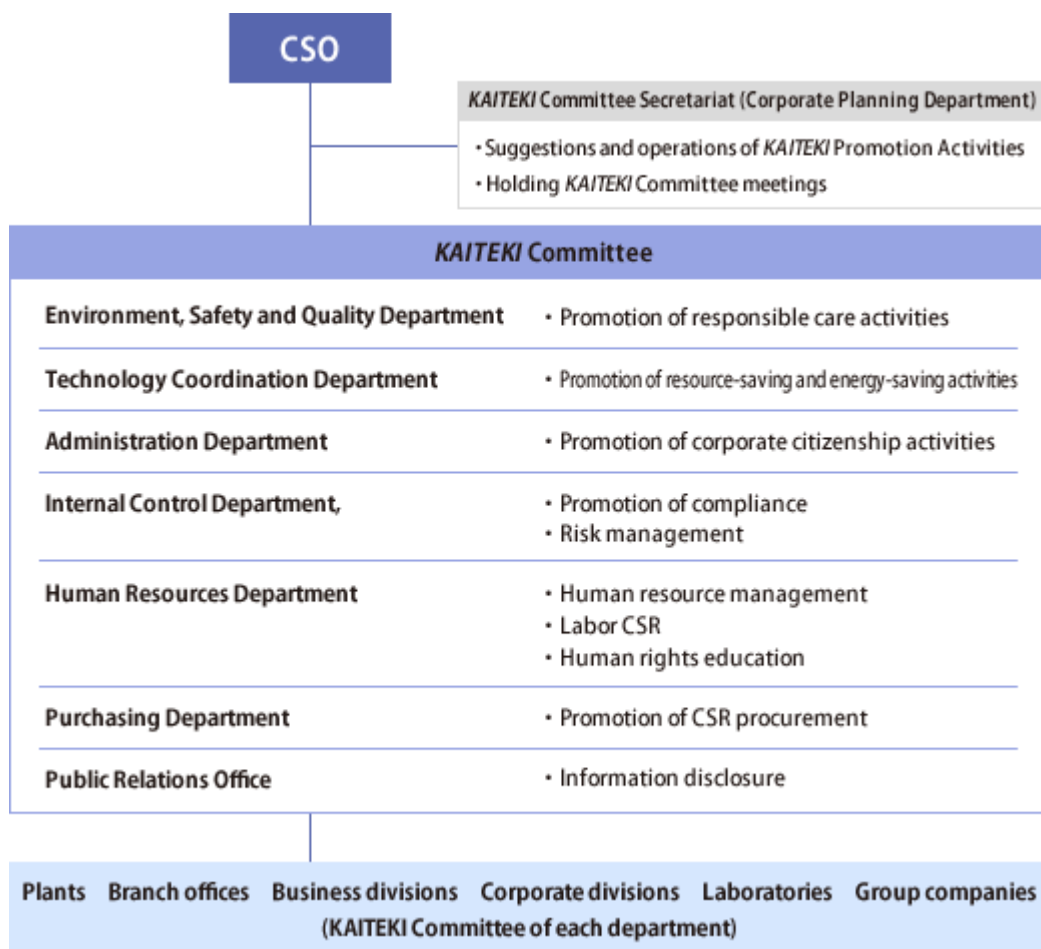
● MCHC's MOS indexes (targets for FY2015)

Sustainability Index	S-1: Contribution to reduce environmental impact through products and services
	S-1-1: Reduce environment impact by 30% from 2005 levels
	S-1-2: Generate reduction of CO ₂ emissions through products
	S-2: Practice energy saving & reduction of depletion resources
	S-2-1: Procure reusable materials equivalent to 6,000 t/y of crude oil
	S-2-2: Suppress rare metal uses by 800 t/y through improving process and innovative products
	S-2-3: Generate resources and energy savings of ¥13 billion
	S-3: Contribution to reduce environmental impact through supply chain management
	S-3-1: Achieve 80% inspection rate on toxic substance in purchased items
	S-3-2: Achieve 90% purchasing of raw materials and packaging according to CSR guideline
Health Index	H-1: Contribution to medical treatment
	H-1: Increase index performance derived by the degree of difficulty to treat diseases and the number of administered patients by 30%
	H-2: Contribution to improvements of QOL
	H-2: Increase contribution to QOL improvements by 40%
	H-3: Contribution to early detection and prevention of diseases
	H-3-1: Increase index of vaccine treatment by 40% H-3-2: Increase number of diagnostic testing by 17%
Comfort Index	C-1: Deliver products (development and manufacturing) for comfortable lifestyle
	C-1-1: Increase sales of comfort-oriented products by ¥600 billion.
	C-1-2: Increase new product ratio from 16% to 35%
	C-2: Improve stakeholder satisfaction
	C-2-1: Improve third party corporate assessments
	C-2-2: Improve employee-related indices
	C-3: Recognition of corporate trust
	<ul style="list-style-type: none"> • Halve the number of troubles and accidents • Halve the work-time-lost injury rate • Complete confirmation of product safety according to GPS for 70% of the products.
Objective to be achieved	Achieve zero occurrence of material accidents and compliance violations

Organization for promoting *KAITEKI*

At the Mitsubishi Chemical Group, we created the role of Chief SUSTAINABILITY Officer (CSO) in 2011 as a measure for building an organizational structure aimed at achieving *KAITEKI*. We have also set up under CSO a MCC's *KAITEKI* Committee that consists of members of key business divisions and corporate divisions (Environment, Safety and Quality Department, Technology Coordination Department, Human Resources Department, Public Relations Department, Administration Department, Internal Control Department, Purchasing Department). The *KAITEKI* Committee deliberates and makes decisions on the policies of activities for making progress toward the ultimate goal of achieving *KAITEKI* through cooperation within the overall Mitsubishi Chemical Group (*KAITEKI* Promotion Activities). The *KAITEKI* Committee meeting is held once a month and held four times in fiscal 2011.

● Organization for *KAITEKI* Promotion Activities



KAITEKI Promotion Activities in fiscal 2011

Achieving *KAITEKI* is enabled through all business activities. We believe that our ultimate goal is to create a corporate culture that encourages each employee to think about what can be achieved for *KAITEKI* and plan, implement, and examine actions for achieving it. *KAITEKI* Promotion Activities implemented by the Mitsubishi Chemical Group in fiscal 2011 were formulation of MOS indexes by the *KAITEKI* Penetration Caravan and each department, which sought to encourage the use of *KAITEKI* Management and MOS indexes as the first step toward the ultimate goal.

The *KAITEKI* Penetration Caravan delivered explanations on *KAITEKI* Management and MOS indexes at plants, branch offices, business divisions, corporate divisions, laboratories, affiliates, and our business partners' briefings for their

customers. In response to the explanations, each company and department discussed what they should do to achieve *KAITEKI*, based on MOS indexes for the entire Mitsubishi Chemical Group. As a result, eight plants, three branch offices, five business divisions, four corporate divisions, and 12 affiliates came up with their own MOS indexes and numerical targets and began monitoring.

Targets, Results, and Assessments for Fiscal 2011

The Mitsubishi Chemical Holdings Group aims to achieve *KAITEKI*, or a truly sustainable society. For this purpose, the Mitsubishi Chemical Corporation (MCC) Group defines its targets for individual fiscal years, and the results of our efforts are incorporated into the challenges and targets for the following fiscal year. Through this process, the MCC Group manages the progress toward its goals.

[Click here for a full download of the tables \(PDF:82KB\)](#) 

● Targets, Results, and Assessments for Fiscal 2011 (1)

Priority Challenges for Fiscal 2011	Targets for Fiscal 2011	Results in Fiscal 2011	Assessment	Link
Promoting <i>KAITEKI</i>				
<i>Disseminating and promoting KAITEKI management and the MOS Indexes</i>	Create a system to promote <i>KAITEKI</i> .	<ul style="list-style-type: none"> Appointed a Chief SUSTAINABILITY Officer (CSO) and set up a <i>KAITEKI</i> promotion committee to hold four committee meetings. 	★★★	Find out more
	Conduct a campaign tour to disseminate <i>KAITEKI</i> .	<ul style="list-style-type: none"> Held briefing sessions on <i>KAITEKI</i> management and the MOS Indexes at different plants, branch offices, divisions, common departments, R&D centers, group companies, and business partners. 	★★★	Find out more

Risk Management				
Addressing serious risks	Take specific action to address the serious risks that the MCC Group faces.	<ul style="list-style-type: none"> ■ Addressed the risks in different departments. <ul style="list-style-type: none"> • Abolished long-distance transport of dangerous or hazardous substances • Settled overseas legal cases. ■ Addressed companywide and cross-divisional risks. <ul style="list-style-type: none"> • Addressed country risks in expanding overseas business. ■ Addressed expected risks in social circumstances. <ul style="list-style-type: none"> • Reviewed the business continuity plan (BCP). 	★★★	Find out more
	Establish and steadily operate risk management systems at Group companies.	<ul style="list-style-type: none"> ■ Built a risk management network in Asia. 	★★	Find out more
Creating a business continuity plan (BCP)	Review the BCP based on lessons from the Great East Japan Earthquake.	<ul style="list-style-type: none"> ■ Closely examined priority products. ■ Assessed moving head office functions and business continuation in case a disaster strikes the head office district. 	★★	Find out more

Compliance

Increasing compliance awareness and auditing and monitoring	<p>Provide compliance training for:</p> <ul style="list-style-type: none"> - compliance personnel - general managers and section managers - compliance promotion leaders - officers and presidents of group companies (implemented by the MCHC - newcomers, new managers, etc. (level-specific) - overseas employees (in collaboration with the MCHC) 	<ul style="list-style-type: none"> ■ Conducted a total of six training sessions for compliance personnel (attended by 220 relevant personnel). ■ Conducted a total of 50 training sessions for general managers and section managers (attended by about 1,300 relevant personnel). ■ Conducted a total of eight training sessions for compliance promotion leaders (attended by 430 relevant personnel). ■ Conducted training for officers and presidents of group companies (offered to officers, leaders, and CCOs of group companies). 	★★★	Find out more
	<p>Conduct different kinds of monitoring for compliance.</p> <ul style="list-style-type: none"> - Continuous surveys on compliance awareness in Japan and overseas (fixed-point observation) - Continue CSA 	<ul style="list-style-type: none"> ■ Conducted compliance awareness surveys. Japan: Conducted surveys of about 21,200 subjects, including officers and part-time workers, at 69 Group companies. Overseas: Conducted surveys of about 2,100 subjects at 44 Group companies. 	★★★	Find out more

Plant Safety and Disaster Prevention

Preventing facility-related accidents	Achieve the goal of zero serious facility-related accidents.	<ul style="list-style-type: none"> ■ Achieved the target of no serious facility-related accidents. 	★★★	Find out more
	Take more specific countermeasures against recurrence of accidents and serious problems.	<ul style="list-style-type: none"> ■ Reviewed past measures in order to develop more convincing and effective measures. ■ Toughened facility management. 	★★★	Find out more
	Provide process safety education	<ul style="list-style-type: none"> ■ Continued to offer plant safety education for mid-level plant employees (250 trainees received education). 	★★★	Find out more

Occupational Safety and Health

Preventing occupational accidents	<ul style="list-style-type: none"> - Achieve zero serious occupational accidents (requiring stopping operations for four or more days) in the Group. - Don't allow the lost time injury frequency go above 0.2 for the entire group. 	<ul style="list-style-type: none"> ■ Conducted the safety activities specified below on a groupwide basis, decreasing the number of serious occupational accidents to seven and the lost time injury frequency to 0.12. 	★★	Find out more
	<p>Prevent action-related accidents. (Increase awareness for front-line professionals.)</p>	<ul style="list-style-type: none"> ■ Raised awareness of responsible behaviors and conducted basic behavioral training. ■ Shared examples of near-misses and minor occupational accidents within the group. 	★★★	Find out more
	<p>Provide experience-based training.</p>	<ul style="list-style-type: none"> ■ Provided training to about 1,900 MCC employees and about 2,000 employees of group companies. 	★★★	Find out more
Managing occupational health	<p>Introduce level-specific mental health education.</p>	<ul style="list-style-type: none"> ■ Provided mental health education to newcomers, first-year employees, staff, new managers, and others. ■ Held workshops at individual plants. 	★★★	Find out more

● **Targets, Results, and Assessments for Fiscal 2011 (2)**

Priority Challenges for Fiscal 2011	Targets for Fiscal 2011	Results in Fiscal 2011	Assessment	Link
Environmental Safety				
Preventing environmental accidents and problems	Achieve zero serious environmental accidents	<ul style="list-style-type: none"> ■ Had no serious environmental accidents, met the target. 	★★★	Find out more
Reducing chemical emissions	Reduce total PRTR substance emissions	<ul style="list-style-type: none"> ■ Reduced PRTR substance emissions for the whole group by 100 metric tons from fiscal 2010 levels. 	★★★	Find out more
	Reduce volatile organic compound (VOC) emissions (maintain a 50% or more reduction from the 2000 level)	<ul style="list-style-type: none"> ■ Reduced groupwide VOC emissions by 56% from the fiscal 2000 level and by 1,020 metric tons from the preceding fiscal year. 	★★★	Find out more
Reducing landfill disposal	Work toward zero emissions	<ul style="list-style-type: none"> ■ The final landfill disposal rate for the whole group was 2.5%, down 0.2 percentage points from the preceding fiscal year. The zero emissions target was not reached. 	★	Find out more
Global warming countermeasures	Implement energy conservation measures during the production process	<ul style="list-style-type: none"> ■ Attained a nonconsolidated unit energy consumption index of 93.9 (with a 10% deterioration from the preceding fiscal year). ■ Reduced greenhouse gas emissions by 27% from 2005 on a nonconsolidated basis and by 28% on a groupwide basis. 	★★	Find out more
	Reduce unit energy	<ul style="list-style-type: none"> ■ Attained a 0.2% improvement in unit energy consumption, but failed to meet the target 		

	consumption in transit by 5% in five years.	of a 1% improvement after a business reorganization and the earthquake. ■ Reduced carbon dioxide emissions by 14% from the preceding fiscal year.	★★	Find out more
	Participate proactively in countrywide power conservation and energy conservation initiatives	■ Implemented energy conservation actions at the head office building and elsewhere.	★★★	-

Chemical Control and Quality Assurance

Complying with international regulations on chemicals	Comply with REACH and other chemical regulations and strengthen control measures	<ul style="list-style-type: none"> ■ Prepared to officially register substances with EU export quantities of less than 1,000 metric tons a year. ■ Conducted a study on the contents of substances of very high concern (SVHC6) in products exported to the EU. 	★★★	Find out more
	Strengthen risk assessment and information distribution	<ul style="list-style-type: none"> ■ Provided product safety data sheets (SDS) compliant with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) to parties to whom SDS is legally not required. ■ Helped promote the global product strategy (GPS) for the International Council of Chemical Associations (ICCA) and the Japan Initiative of Product Stewardship (JIPS) ■ Disclosed risk assessments and safety summary sheets in succession in the GPS initiative. 	★★★	Find out more

Quality assurance	Improve the reliability of quality data and continue to modify the green data management system	<ul style="list-style-type: none"> ■ Revised internal rules to strengthen the internal verification system for quality inspection and to strengthen auditing. ■ Continue to reform the green data management system to unfailingly control and communicate data on substances subject to special control that are contained in individual products. 	★★★	Find out more
Responsible Care Communication				
Promoting Mitsubishi Chemical's groupwide implementation of RC activities	Increase safety awareness	<ul style="list-style-type: none"> ■ Held eight information exchange meetings to share PC information in the Group. ■ Held Safety Day activities. 	★★★	-

● **Targets, Results, and Assessments for Fiscal 2011 (3)**

Priority Challenges for Fiscal 2011	Targets for Fiscal 2011	Results in Fiscal 2011	Assessment	Link
Compliance with the Act against Delay in Payment of Subcontract Proceeds, etc. to Subcontractors				
Complying with the Act against Delay in Payment of Subcontract Proceeds, etc. to Subcontractors	Enforce compliance with the Act against Delay in Payment of Subcontract Proceeds, etc. to Subcontractors	<ul style="list-style-type: none"> ■ Held an internal workshop. ■ Carried out an audit of the purchasing departments of different plants. 	★★★	Find out more
CSR Procurement				
CSR procurement	Monitor the CSR status of business partners	<ul style="list-style-type: none"> ■ Conducted a CSR survey of 117 business partners, receiving replies from at least 90% of them, and analyzed the results. ■ Conducted interviews with six business partners regarding their CSR actions. 	★★★	Find out more
Human resources development				
Cultivating the next generation of management	Cultivate the next generation of management through the General Course at Mitsubishi Chemical Holdings Business College	<ul style="list-style-type: none"> ■ Continued to run an entry-level global personnel development program. 	★★★	Find out more

Cultivating global human resources	Consider and implement a global human resource development scheme	<ul style="list-style-type: none"> ■ Continued to run an entry-level global personnel development program. ■ Revised overseas practical work training and reorganized it into the Overseas Business Challenge Program to expand the number of employees outside Japan receiving language and practical work training. 	★★★	Find out more
Offering opportunities to take up challenges and increase awareness	Continue to implement programs for open recruitment, in-house free agents, in-house internships, and career counseling	<ul style="list-style-type: none"> ■ Consolidated application forms to facilitate the use of different programs, and improved the methods of advertising them to employees. 	★★★	Find out more
Developing the organization and Its culture				
Helping various human resources show their strengths	Increase the percentage of female employment (to 20% or more in 2015) Work toward a women's career support program	<ul style="list-style-type: none"> ■ Percentage of women in new graduates recruited: 14% in technical positions and 39% in administrative positions. ■ Won an award for excellence in the 5th Work-Life Balance Awards held by the Japan Productivity Center. 	★★★	Find out more
	Work toward recruiting foreign nationals as employees	<ul style="list-style-type: none"> ■ Cultivated a channel for recruiting personnel from overseas universities in China and Singapore. ■ Hired two new graduates of foreign nationality. 	★★★	Find out more
	Work to help people with disabilities exhibit their skills	<ul style="list-style-type: none"> ■ Continued to attain the statutory rate for disability employment. 	★★★	Find out more

Supporting a work-life balance				
Promoting reduction of total working hours	Reduce overtime and holiday work Increase the percentage of annual paid vacation days taken	<ul style="list-style-type: none"> ■ Average overtime work hours for general employees: 20.8 hrs. (up 2.3 hrs. from the preceding fiscal year). ■ Maintained a high percentage of paid vacation holidays taken among regular daytime workers (70%) and shift workers (90%). 	★★	Find out more
Human rights measures				
Educating and raising awareness of human rights	Reconfirm and understand buraku issues, eliminate prejudice, and continue overseas training	<ul style="list-style-type: none"> ■ Held 432 group training sessions at different locations, including overseas plants, attended by 10,019 trainees. ■ Offered in-house Intranet training (E-training) on human rights to 20,364 trainees. 	★★★	Find out more
	Prevent sexual harassment, abuse of authority, and other forms of harassment at workplaces			
	Work putting emphasis on establishing human rights training at overseas group companies among other issues			
Identifying problems				
Conducting employee opinion surveys	Conduct employee opinion surveys and incorporate findings into various management measures	<ul style="list-style-type: none"> ■ Conducted surveys of 24,545 personnel, accounting for 90% of those working in Japan and stationed overseas. 	★★★	Find out more

Labor-management relations				
Building good labor-management relations	Maintain and improve labor-management relations and increase the depth of labor-management communications	<ul style="list-style-type: none"> Improved the proceedings of biannual management and labor committee meetings to facilitate communications between management and workers. 	★★★	Find out more
Corporate citizenship activities				
Cultivating future generations, communications with local communities, and support for disaster control	Cultivate future generations, communications with local communities, and support for disaster control	<ul style="list-style-type: none"> Organized scientific experiment events at different locations to support the cultivation of future human resources in science and technology. Sponsored the Mitsubishi Chemical Junior Designer Award. Supported employees' volunteer activities after the Great East Japan Earthquake and met with collaborating NPOs to exchange opinions. 	★★★	Find out more

The Steps to *KAITEKI* as Seen from MOS Indexes

Mitsubishi Chemical's activities towards the achievement of *KAITEKI*

With the start of the mid-term management plan APTSIS 15 (FY2011 to FY2015), the Mitsubishi Chemical Holdings (MCHC) Group is committed to running its business in a way that delivers *KAITEKI* solutions by putting the infinite potential of "Good Chemistry" to work. Positioning the three decision criteria of Sustainability, Health, and Comfort, the MOS (Management of Sustainability) indexes that visualize and quantify their progress have been independently developed and used for monitoring.

As a member of the MCHC Group, what kinds of initiatives is Mitsubishi Chemical pursuing towards the achievement of *KAITEKI*, and what results have these efforts yielded? Here we have identified several products from among the wide range of businesses in the Mitsubishi Chemical Group, showing their details and progress with respect to Sustainability, Health, and Comfort.

Sustainability Index

S-1: Contribution to reduce environmental impact through products and services

S-1-1: Reduce environment impact by 30% from 2005 levels

S-1-2: Generate reduction of CO₂ emissions through products

S-2: Practice energy saving & reduction of depletion resources

S-2-1: Procure reusable materials equivalent to 6,000 t/y of crude oil

S-2-2: Suppress rare metal uses by 800 t/y through improving process and innovative products

S-2-3: Generate resources and energy savings of ¥13 billion

S-3: Contribution to reduce environmental impact through supply chain management

S-3-1: Achieve 80% inspection rate on toxic substance in purchased items

S-3-2: Achieve 90% purchasing of raw materials and packaging according to CSR guideline

Health Index

H-1: Contribution to medical treatment

H-1: Increase index performance derived by the degree of difficulty to treat diseases and the number of administered patients by 30%

H-2: Contribution to improvements of QOL

H-2: Increase contribution to QOL improvements by 40%

H-3: Contribution to early detection and prevention of diseases

H-3-1: Increase index of vaccine treatment by 40%

H-3-2: Increase number of diagnostic testing by 17%

Comfort Index

C-1: Deliver products (development and manufacturing) for comfortable lifestyle

C-1-1: Increase sales of comfort-oriented products by ¥600 billion.

C-1-2: Increase new product ratio from 16% to 35%

C-2: Improve stakeholder satisfaction

C-2-1: Improve third party corporate assessments

C-2-2: Improve employee-related indices

C-3: Recognition of corporate trust

- Halve the number of troubles and accidents
- Halve the work-time-lost injury rate
- Complete confirmation of product safety according to GPS for 70% of the products.

Objective to be achieved

Achieve zero occurrence of material accidents and compliance violations

Mitsubishi Chemical Group activities aimed at achieving *KAITEKI*

Sustainability	MOS Indexes
GS Pla™ Environmentally sustainable Resin Find out more	S2-1
DURABIO™ plant material-based high performance engineering plastic Find out more	S2-1
Health	MOS Indexes
Dextranase (plaque degrading enzyme) Find out more	H-3
Lacris™ (lactobacillus sporogenes) Find out more	H-2
Erythritol (zero-calorie sugar) Find out more	H-2
Comfort	MOS Indexes
VxRGB™ (high-color rendition LED lighting fixture) Find out more	C-1
VELVE™ (organic EL lighting) Find out more	C-1



Sustainability

From Oil to Plants-Changing the Raw Materials for Plastics to Renewable Resources

Plastics are used in so many products, ranging from daily necessities to industrial machinery, that they are indispensable to today's society. At this moment, plastics are mostly produced from oil and other fossil resources. Additionally, plastics are blamed for environmental issues caused through the waste treatment process after use. The MCC Group is continuing its efforts to develop plastics that place a minimum burden on the environment throughout their life cycle; from manufacturing to disposal.

Also, the Mitsubishi Chemical Holdings Group has set a goal of increasing its consumption of renewable materials to 6,000 metric tons of oil equivalent by 2015 (MOS Index: S-2-1). Capitalizing on the advanced manufacturing technologies it has developed in the petrochemical business, and on the biotechnologies it has acquired through its food and pharmaceuticals businesses, the MCHC Group plans to accelerate the replacement of oil-based raw materials to plant derived bio-based resources when manufacturing plastics.

Case 1

Green Sustainable Plastics — GS Pla™

GS Pla™ is biodegradable plastic that will easily degrade simply by burying it in soil without any special process or condition. Since its release in 2003, GS Pla™ has been earning increasingly higher ratings. Mitsubishi Chemical is actively working to convert conventional oil-based materials to renewable bio-based materials.

Amount of materials shifted to renewable resources Equivalent to **8,000 kiloliters** of crude oil per metric ton of plastics

MOS Index S-2-1 [>Find out more](#)

GS Pla™ — Characteristics and Contribution to Sustainability

Released in 2003 from Mitsubishi Chemical, GS Pla™ is a biodegradable plastic that naturally decomposes into water and carbon dioxide by microorganisms in the soil. Its unique characteristics include its superiority in decomposition conditions, decomposition speed, and high level of plasticity—attributes not seen in other biodegradable plastics. Many biodegradable plastics require a special treatment process, as they cannot start decomposing until the temperature and humidity reaches a certain level. In contrast, GS Pla™ only needs to be buried in the ground. Then it decomposes naturally. It is also easy to process and can be used for almost all plastic molding methods. In addition, it can be combined with other biodegradable resins that have other characteristics to create more functional compound resins.

At the 2010 Winter Olympic Games in Vancouver, Canada, GS Pla™ was used to manufacture the spoons and forks in the Olympic Village Canteen to help reduce waste disposal. In the future, its applications will be expanded into areas such as agricultural sheets, plastic shopping bags, laminated products, and food containers.



Biodegradability of GS Pla™



To accelerate this growing adoption of GS Pla™, Mitsubishi Chemical has simultaneously been engaging in R&D to replace its current oil-based raw materials with bio-based materials. In 2011, this effort finally produced tangible results.

Progress in Fiscal 2011

GS Pla™ is mainly composed of succinic acid and 1,4-butanediol. To create succinic acid from bio-based materials, Mitsubishi Chemical established a new production technology based on a fermentation method, and is continuing to study ways to enhance productivity. To accelerate the changeover, in April 2011 Mitsubishi Chemical decided to form an alliance with BioAmber, a Canadian-based biotechnology venture. BioAmber was planning to start a business producing succinic acid from bio-based materials and already had a commercial plant. By combining its own biotechnology and refining technologies with BioAmber's production technologies, Mitsubishi Chemical will be able to efficiently produce high-quality succinic acid from bio-based materials.

In March 2011, Mitsubishi Chemical established PTT MCC Biochem Company Limited as a joint venture with the Thailand-based oil and natural gas company PTT Public Company Limited. The main target of this alliance was to realize the full-scale production of GS Pla™ using succinic acid from bio-based materials in Thailand, which has a strong background in agriculture that has made it one of the leading sugar exporters in the world. One of the key policies of the Thai government was to add further value to its sugar industry. PTT MCC Biochem plans to start producing succinic acid by drawing on the abundant supply of sugar and starch in Thailand.

Meanwhile, with respect to 1,4-butanediol, in April 2011 Mitsubishi Chemical agreed to a strategic partnership with US-based Genomatica, Inc., a company with an extensive track record in the development of biochemical products. By integrating Genomatica's technologies in biochemical manufacturing with Mitsubishi Chemical's processing technologies, 1,4-butanediol can be produced at a competitive level of quality and price when compared to oil-based products.

Future Developments

Efforts are being made to embark on the full-scale production of GS Pla™ from bio-based materials at PTT MCC Biochem in 2015. In 2012 and the following years, PTTMCC Biochem will endeavor to construct a plant to meet this target, and will cultivate customers by advertising the product's benefits. Past sales activities have revealed that many customers have a strong interest in the recyclability of GS Pla™, which is made from plants grown on the ground and decomposes in the soil after use.

In anticipation of the future, technological development is underway to shift from edible bio-based materials such as sugar and starch to non-edible materials such as sugar cane pomace and weeds.

Case 2

DURABIO™ High-Performance Engineering Plastic Made of Plant Materials

DURABIO™ boasts high performance and properties that reverse the conventional perception of bio-based plastics. It is far superior in optical characteristics, surface hardness, and weather resistance to existing polycarbonate (PC) resins. As a brand-new engineering plastic created in the era when society is moving away from fossil resources, it is drawing increasing attention.

MOS Index S-2-1 >[Find out more](#)

DURABIO™ Characteristics and Contribution to Sustainability

Transparent engineering plastics, a typical example being PC resins, are now being incorporated into many different products. These applications include mobile phones, computers and other electronic equipment, leading-edge optical and energy-related materials, alternative materials to high-performance glass, automobiles, aircraft, solar cells, and medical equipment. Mitsubishi Chemical has developed DURABIO™ as the world's first transparent engineering plastic made partly from bio-based materials that has many of the characteristics expected of transparent engineering plastics.

DURABIO™ is a polymer produced from isosorbide, which is derived from saccharides, a plant-derived material. DURABIO™'s distinctive characteristics include great strength as well as excellent optical properties, particularly low birefringence, high transparency, and brightness. Further, it barely yellows after long-term exposure to ultraviolet rays. It is anticipated that DURABIO™ will be applied to the transparent components of solar cell panels and other products intended for outdoor use.

DURABIO™'s hard surface makes it resistant to scratches. When in transparent colors or metallic textures, it has a deep, vivid tint. Its characteristics can be applied to a range of other fields.

In addition to using bio-based materials, DURABIO™ has outstanding functionality, and is believed to have potential in a wide variety of applications. This makes DURABIO™ very valuable as a sustainable plastic.



DURABIO™ transparent bio-based engineering plastic



An example of the applications of DURABIO™ (a reference product from Yamamoto Kogaku Co., Ltd.)



Color plates

Progress in Fiscal 2011 and Future Developments

In 2010, Mitsubishi Chemical started producing DURABIO™ samples at a pilot plant in its Kurosaki Plant in a effort to cultivate a market for it. In fiscal 2011, a full-scale manufacturing facility began to be constructed on the premises of the Kurosaki Plant. It is set to start operating in 2012. The system can be expanded in response to demand. Annual production of 20,000 metric tons is projected for 2015.



Health

Using Natural Materials to Support Healthy Lifestyles

To achieve *KAITEKI*, the MCC Group is endeavoring to help prevent diseases or discover them in their early stages. One Group company in particular, Mitsubishi-Kagaku Foods Corporation, helps contribute to a healthy lifestyle, prevent disease, and improve quality of life (QOL) through its food ingredients and additives. Through its key concepts of "natural," "healthy," and "comfort food," it assists in producing products from natural materials, obesity prevention, and other responses to the growing health consciousness, and improves the convenience and taste of food by capitalizing on its unique strengths in fermentation and extraction technologies.

Below we present Mitsubishi-Kagaku Foods' products as part of our efforts to achieve MOS Index H-3 (contribute to the early detection and prevention of disease) and other indexes.

Case 1

Dextranase—A Dental Plaque Decomposition Enzyme

Dental decay is a disease in which teeth are corroded by the acid emitted from bacteria. Because dental plaque is home to bacteria, regularly removing dental plaque is believed to be effective in preventing tooth decay. Dextranase, contained in toothpaste, is an enzyme known for its ability to break down and remove dental plaque.

MOS Index H-3 >[Find out more](#)

Dextranase—Characteristics and Health Benefits

Dextranase is the only enzyme approved in Japan to be capable of decomposing and removing dental plaque. It was commercialized in 1980 in collaboration with Lion Corporation, a manufacturer of household goods and over-the-counter drugs. It has since been used in Lion's Clinica Series toothpaste (a quasi-pharmaceutical product) for more than 30 years to help reduce dental decay, bad breath, and other oral problems.

The polysaccharide dextran is a major cause of dental plaque. Generated from the sucrose contained in food by oral microorganisms, dextran has a high level of adhesion, which allows it to form dental plaque on the tooth surface, causing dental decay and bad breath. Dextranase breaks down this problem-causing dextran. The research and development team of Sankyo Co., Ltd. (currently known as Daiichi Sankyo Co., Ltd.) became the first in the world to succeed in the industrial production of dextranase. In collaboration with Lion corporation, Sankyo Co., Ltd optimized dextranase so it could be added to toothpaste. Thus, the Clinica Series, which turned out to be a longtime seller, was created.

In a bid to broaden its business horizons, in 2007 Mitsubishi-Kagaku Foods took over Sankyo Lifetech Co., Ltd., which had dealt with dextranase as well as many other enzymes. Because dextranase is produced with the help of microorganisms, consistent quality production requires unique expertise and a high level of technical capabilities in the management, cultivation, extraction, and refinement of dextranase. Capitalizing on its advanced knowledge of and technologies in this enzyme, Mitsubishi-Kagaku Foods produces and supplies dextranase.

For better quality of life, it is very important for us to retain our teeth to enjoy our meals. The MCC Group will continue to produce high-quality dextranase to help promote dental health.

Case 2

Lacris™ —Spore forming lactic acid bacteria

Lactic acid bacteria, found in yogurt and similar foods, are empirically recognized as being beneficial for intestinal health. Lacris™ is a type of lactic acid bacterium with unique characteristics that enable it to reach the intestines alive

MOS Index H-2 >[Find out more](#)

Lacris™ —Characteristics and Health Benefits

With the strong public interest in health, a great many health food products come onto the market every year. Accordingly, various new materials and ingredients are continually being created. However, lactic acid bacteria remain consistently popular. Lacris™ is a lactic acid bacterium that has been on the market since 1966. With its unique features, it has been used for a wide variety of health food and general food products.

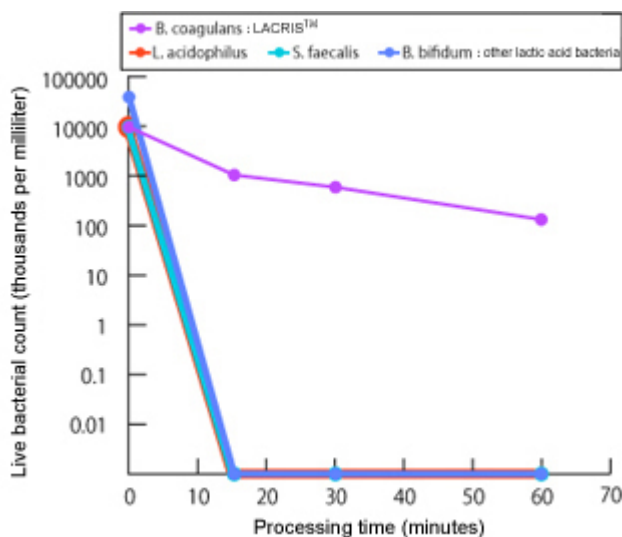
The most important characteristic of Lacris™ is its ability to reach the intestines alive. Manufactured in a seedlike form, it is not killed by gastric acid when it reaches the stomach.*1 Instead, the acid stimulates it to germinate. When it enters the intestines, it multiplies and begins acting as a lactic acid bacterium. Because it is also so resistant to hot or dry conditions*2 and so durable in salt and sugar, it can be blended alive into processed food that is heat treated, which makes Lacris™ a very easy-to-use bacterium. With its numerous attributes and long track record, LACRIS™ is regularly used in a broad array of products, including health food in the form of tablets and capsules, drinks in granule form, and snacks.

Lacris™ is produced in a process based on fermentation technologies. Mitsubishi-Kagaku Foods owns a technology that can have a bacterium efficiently form spores with characteristics such as heat resistance, and this technology gives the company a unique competitive advantage.

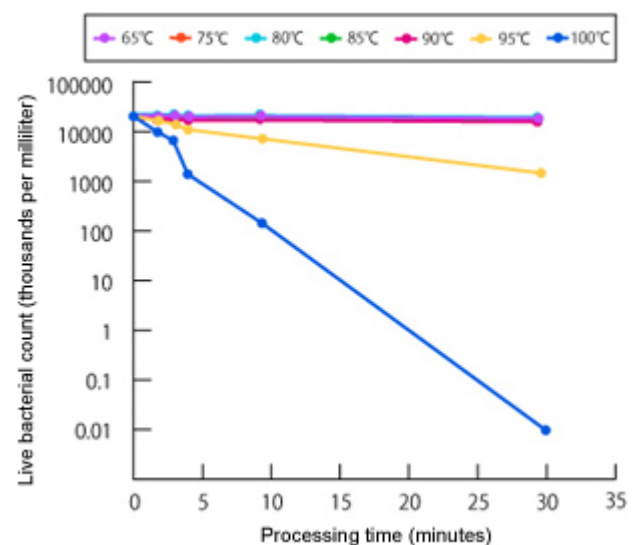
*1 Lacris™ is so resistant to acids that it is stable even in an artificial gastric juice (pH2.0) or 10% citric acid

*2 Lacris™ is so resistant to heat that it has a high survival rate even after being heated at 85 degrees Celsius for 30 minutes.

● Acid resistance comparison



● Heat resistance comparison



Future Developments

Because of the unique features and wide range of applications of Lacris™, Mitsubishi-Kagaku Foods is stepping up its efforts to use the bacterium even more broadly. In view of possible joint development efforts with food manufacturers,

Mitsubishi-Kagaku Foods is considering new applications for the bacterium. It is also used in mixed feed for animals in Japan. Mitsubishi-Kagaku Foods plans to expand this application overseas.

Case 3

Erythritol—A Calorie-Free Sweetener

Erythritol is known as a true no-cal sweetener that is not absorbed by the human body. Mitsubishi-Kagaku Foods' safe and reliable production of erythritol meets the strict quality standards of food manufacturers.

MOS Index H-2 >[Find out more](#)

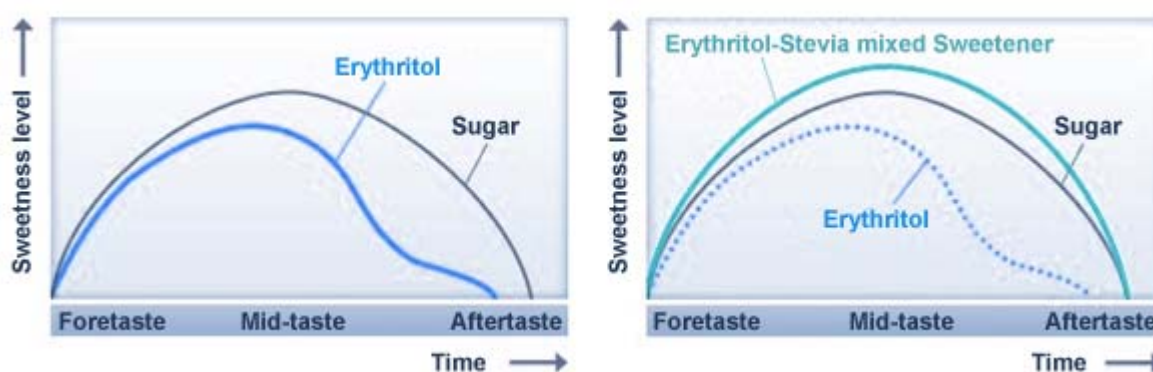
Erythritol—Characteristics and Health Benefits

Amid the growing health consciousness, calorie-free foods have once again been gaining attention in recent years. There are two kinds of food products advertised as "zero calorie." One kind is intrinsically zero-calorie sweeteners, while the other is products that are several hundred times sweeter than sugar. The latter is almost zero-calorie because only a small portion is needed to get the same sweetness as sugar. Erythritol is the only calorie-free sweetener that can be labeled "zero calorie." It is therefore used in many different low-calorie food products, including table sweeteners, yogurt, jelly, and candy.

Erythritol is recognized as calorie-free because 90% or more of it is excreted in the urine without being metabolized after it is absorbed into the small intestines and bloodstream. Other characteristics of the sweetener are that it is about 75% as sweet as sugar, has a cool taste like mint, and doesn't cause dental decay (it is not used by *Streptococcus mutans* and thus doesn't produce any organic acids).

Mitsubishi-Kagaku Foods is the largest erythritol manufacturer in Japan, and among the top group erythritol manufacturers in the world. Highly regarded for its quality control system, which meets the high quality standards required by Japanese food manufacturers, Mitsubishi-Kagaku Foods has established a position as a leading manufacturer.

● Taste comparison between erythritol and sugar



Future Developments

Demand for calorie-free foods is spreading from developed countries to fast-growing emerging countries in Asia and elsewhere. Mitsubishi-Kagaku Foods is planning to promote erythritol outside of Japan. In the meantime it will contribute to developing the ideal sweetener for humans, a combination of erythritol and other sweeteners that result in a sugar-like sweetness and zero calories.



Comfort Seeking Higher Light Quality and Diversity through New-Age Lighting

Light emitting diode (LED) lights are spreading rapidly, as the uncertain power supply makes it critically important to reduce power consumption. Lighting not only serves to illuminate the environment, but it is also essential to a comfortable life. The key is the quality of light. In its pursuit to produce natural light like sunlight in lighting, Mitsubishi Chemical is working to develop and deliver high-color-rendering white LED lights. Mitsubishi Chemical is also embarking on efforts to commercialize organic light emitting diode (OLED) lighting, which has great future potential.

Case 1

VxRGB™—A High-Color-Rendering LED Lighting Fixture

VxRGB™ incorporates Mitsubishi Chemical's unique technologies in red and other phosphors, its independently developed gallium nitride (GaN) substrate, and its knowledge and technical capabilities based on its experience in producing the many different components necessary in LED lighting. In its pursuit of high-quality light, Mitsubishi Chemical continues to develop white LEDs materials.

MOS Index C-1 [Find out more](#)

VxRGB™—Characteristics and Contribution to Comfort

A standard white LED lighting is currently being adopted at an increasingly fast pace. Its outstanding features include its low power consumption—about one-eighth of that of an incandescent bulb—and its service life, which is about 40 times longer than an incandescent bulb. However, it has a drawback in its color rendering, or the faithful reproduction of colors, as it makes people's faces look pale. VxRGB™ is Mitsubishi Chemical's white LED lighting that solves this problem, reproducing natural colors, like those contained in sunlight.

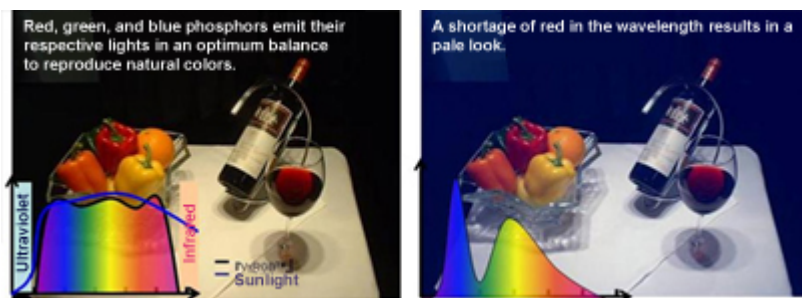
General white LED lighting produces white light by combining blue light with a yellow phosphor. VxRGB™ combines violet light with red, green, and blue (RGB) phosphors to generate high-color-rendering light. Its color-rendering property is expressed as CRI. Ordinary white LEDs have an CRI value of around 70, whereas VxRGB™ has an CRI value of 95 or more. Further adjustment of phosphors may bring the value even closer to 100. In the past, halogen lamps were used in luxury boutiques and cosmetics shops, which paid particular attention to product colors through high-color-rendering lighting sources. However, like incandescent lamps, halogens consumed a huge amount of electricity, and their calorific value was very high. In contrast, white LEDs' calorific values are so low that they help make these store spaces more comfortable. They are also expected to serve as optimal lights for art and other museums.

Mitsubishi Chemical's successful development of the VxRGB™ high-color-rendering LED light is based on the company's independent production of all the components necessary for it—specifically the substrate, phosphors, LED chip, sealant, and packaging material. Also very significant was its successful creation of gallium nitride (GaN) substrates in 2008. That paved the way for a high output of LED chips and gave the company a unique and powerful competitive advantage.



An elevator hall in the Palace Building, equipped with the VxRGB™

● Comparison between VxRGB™ (left) and a pseudo-blue LED (right)



Progress in Fiscal 2011 and Future Developments

In January 2011, a low-profile down light incorporating the VxRGB™ was released in Japan in the hopes that its improved light quality would broaden the applications for LED lights. In fiscal 2012, Mitsubishi Chemical plans to develop the market through new lighting fixtures. In conjunction with this, it will continue its R&D efforts to increase output by improving the GaN substrate, and to improve light quality by studying the phosphors further. It also plans to ramp up overseas sales.

Case 2

The VELVE™—An Organic Emitting Diode (OLED) Lighting Panel

The VELVE™ is Mitsubishi Chemical's OLED lighting, expected to become a next-generation surface emitting light. It produces superb quality white light, supported by toning and dimming functions based on a RGB stripe structure.



A meeting room in Mitsubishi Chemical's Head Office. The VELVE™ in the entrance changes to a different color while the room is in use

MOS Index C-1 >[Find out more](#)

VELVE™—Characteristics and Contribution to Comfort

Organic electroluminescence technology emits light by converting electrical energy into optical energy using organic materials. It is currently attracting growing attention for its use in display devices. Mitsubishi Chemical has been researching and developing this light-based technology.

OLED lighting features surface light emission. Unlike other lighting, which features point or line light emission, OLED lighting softly illuminates a space. The light-emitting component is not only thin and lightweight, but, because it uses a flexible substrate material, it can also be made to bend freely. This vastly increases the possible locations where lights can be installed as well as the type of installation method, which were restricted in the past.



The headquarters annex building of Penta-Ocean Construction Co., Ltd.

In addition to these characteristics, Mitsubishi Chemical's OLED lighting has another feature: its brightness and color can be easily changed. This is unique to Mitsubishi Chemical, as it has a large knowledge base of pigments, dyes and the technologies to use them in connection with wet coating-type organic electroluminescence, which is considered to be advantageous in large plane applications and in reducing costs.

In February 2010, Mitsubishi Chemical formed an alliance with Pioneer Corporation, which has a wealth of expertise in developing and manufacturing organic electroluminescence panels, and the two collaboratively developed the world's first mass production technology. The sample kit released in April 2011 has an automatic full-color tuning mode. The panel features a world-class size of nearly 14 cm square.



The VELVE™-lit entrance hall of the headquarters annex building for Penta-Ocean Construction Co., Ltd.

● **VELVE™ showing the light automatically changing to different colors**



Progress in Fiscal 2011 and Future Developments

In April 2011, Mitsubishi Chemical developed the world's first mass production technology for VELVE™, and released a sample kit. This was followed by the start of mass production of VELVE™ modules in July 2011. Because OLED lighting is an unprecedented lighting product, Mitsubishi Chemical is working hard to expand its sales and marketing, and striving to improve its product lineup based on customer requests.

The company is also endeavoring to develop the wet coating process for organic light emitting diode (OLED) panels. In June 2012, it succeeded in developing an OLED element using the wet coating process for the light-emitting layers, resulting in a long lifetime and a high level of light-emitting efficiency. A test facility to ensure the reliability of the mass production technology will be put into operation in summer 2012 in an aim to attain full-scale commercialization by fiscal 2014 .



The world's largest OLED panels



Exhibition at Fuori Salone Milano
Photographed by Toshio Kaneko

Setting our own targets of the MOS Indexes has clarified our achievement of *KAITEKI*.



As part of the Mitsubishi Chemical Holdings Group, the MCC Group aims to achieve *KAITEKI*. Our fiscal 2011 slogan for our *KAITEKI* initiatives was "Disseminating *KAITEKI* Management and the MOS Indexes*." In our endeavor to achieve *KAITEKI*, we discussed the challenges to be addressed and the actions to take in all MCC Group organizations. As a result, most individual organizations created their own MOS Indexes. These actions inspire individual employees to consider the achievement of *KAITEKI* as their own personal challenge.

This year's CSR Report gave MCC *KAITEKI* Committee members who took the initiative to formulate the MOS Indexes in their individual organizations the opportunity to discuss with the Chief SUSTAINABILITY Officer (CSO), who is responsible for *KAITEKI* promotion activities in MCC Group. They discussed current issues, future developments, and more in their meeting. Mr. Yoshihiko Yamabuki of Cetus & General Press Inc., a company that is extensively engaged in the business of supporting corporate communications, was invited to be the facilitator. This special feature presents the front line of our efforts to promote *KAITEKI*.

*Management of SUSTAINABILITY (MOS) Indexes have been created by Mitsubishi Chemical Holdings Corporation as a way to quantify and monitor progress toward achieving *KAITEKI*.

Attendees

Hisao Urata, Executive Officer; Chief Operation Officer, Corporate Strategy Div.; General Manager, Corporate Planning Dept., Corporate Strategy Div.; Chief Sustainability Officer, Mitsubishi Chemical

Noboru Sato, Yokkaichi Plant, Mitsubishi Chemical

Denji Okamoto, Kurosaki Plant, Mitsubishi Chemical

Toshio Ikeda, Sakaide Plant, Mitsubishi Chemical

Hideharu Sato, Performance Products Division, Mitsubishi Chemical

Chinatsu Kurume, Administration & Human Resource Dept. Shinryo Corporation

Facilitator: **Yoshihiko Yamabuki**, Cetus & General Press Inc.

Creating Indexes that Correspond to Actual Circumstances

<Incorporating the characteristics of individual organizations into the individual MOS Indexes>



Denji Okamoto

Okamoto (Kurosaki Plant) When we created our individual MOS Indexes, we spent a particularly long time debating how to enhance our stakeholder's satisfaction level. We discussed who the key stakeholders for the Kurosaki Plant were, and came to a conclusion. It is the employees and the local community. Our plant operates in the city of Kitakyushu in Fukuoka Prefecture. We have defined what actions to take regarding the local government and local community, and are using the MOS Indexes to quantify these actions. We have also set target values to reach. We are thinking of using these in our future activities.

Sato (Yokkaichi Plant) At the Yokkaichi Plant, *TRY 2015* had already been put into action, which is our plant's version of *APTSIS 15*. We had the idea of linking it to the MOS Indexes. As a result, we discussed how to link the medium-term management plan with the achievement of *KAITEKI* from a MOS-based perspective. This might be considered one of the characteristics of our initiative. Our plant has a large number of staff members in the research and development (R&D) department. Another characteristic is that we sought to develop the indexes by allowing all members of the plant, including R&D staff, to participate in the initiative.

Ikeda (Sakaide Plant) We had also put into practice our own version of *APTSIS 15* under the name of "Sakaide Chemi-kaeru Nanatsuboshi 15 Katsudo." We picked up topics of CSR activity from this and created our MOS Indexes to convey the actual results of our activities. Through the index creation process we realize we should expand our activities into MCC group companies.

Sato (Performance Products Division) In the beginning, we wondered how we could publicize the MOS Indexes and *KAITEKI* promotion activities, and found it difficult to come up with a good way to disseminate them to individuals. At that time, our division had four departments, whose locations were spread out to Yokkaichi and Kurosaki. Since these shared many of the indexes that would be emphasized, we decided that the division would be in charge of helping them achieve their major goals while the individual plants would propose the details. As a result, we took the approach of asking individual departments to come up with slogans for *APTSIS 15* so the division could develop them into the MOS Indexes.



Hideharu Sato

Kurume (Shinryo) Our company runs an environmental business based on the four R's—namely: reduce, reuse, recycle, and reliance. We were wondering how to express reductions in CO₂ to show the results of our corporate activities. We had long been conducting many different activities aimed at improving the level of satisfaction of society, the local community, and employees. This helped us more easily understand the concept of *KAITEKI* management and the MOS Indexes. With the help of different departments in the company, we were able to take them on relatively smooth.

Process Standardizations Facilitates Work

<Actions toward increasing employee satisfaction>

Ikeda (Sakaide Plant) There are two ways to improve employee satisfaction. One is the straightforward approach of creating a comfortable work environment. The other is the self-discipline approach, which makes employees feel rewarded through capacity building. We thought of concrete actions to enhance both approaches and added them to our individual MOS Indexes.

Okamoto (Kurosaki Plant) Our plant has been conducting subcommittee activities to improve employee satisfaction since the middle of 2009. The *KAITEKI* Work-Life Subcommittee was set up as part of these activities. Consisting largely of female members, its overall objective is to energize the Kurosaki Plant by motivating every single worker. This subcommittee focuses on how to achieve job satisfaction and attain a work-life balance, particularly from a woman's point of view, and provides workshops and lecture series.

Sato (Yokkaichi Plant) With respect to rectifying the operations closely associated with employee satisfaction, individual departments have so much specialized knowledge that it takes a long time for anyone who transfers to a new department to get used to their new job. We thought that one of the reasons for this was that operations weren't sufficiently standardized. We are therefore working to visualize operations to begin reducing the workload in the production process. This is expected to eliminate unnecessary work and identify the processes that can be mechanized. We will build a system that identifies what should be done by humans, and human resources can then concentrate on what can only be done by people. We believe that this will make workers' jobs and lives more worthwhile.

Kurume (Shinryo) Our company is moving forward with process standardization by linking this process to managers' paid leave. The low percentage of busy line managers taking paid leave has long been an issue. We urged them to take nine consecutive days off, including weekends, in a rather persuasive manner. In doing this, we asked them to standardize their respective duties so that someone else could do them during their absence. In this way, we are moving ahead with standardization. Three years have passed since we started this process. We are still doing it without any major problems.



Chinatsu Kurume

Urata (CSO) In a sense, process standardization leads to the building of an organization that enables complementary actions. To do this it is necessary to overhaul the duties of individual employees. I think that standardization will become possible when employees list all their duties and divide them into those that can't be done by others and those that can be done by others. In terms of self-discipline, building the capacity of staff members is the most important way to improve the company. I think that the main objective of the MOS Indexes is to make employees aware of an improvement from the preceding day on a daily basis, and to encourage them to continue to improve themselves. Then, at the plant, division, or other group level, more power will be exerted. The organization will produce better outputs and raise the Management of Economics Indexes points, which are used in administrative approaches. That would be ideal, I think.

Sato (Performance Products Division) Quantifying personal skills is necessary to an objective appraisal of a person's growth. At first, I felt this was very difficult to do. However, we learned that it was possible to measure whether someone's personal skills had improved, and to evaluate the improvement by selecting the most appropriate indicators from a range of different criteria, along with a self-evaluation and an interview with superiors.

Exploring What Kind of Corporate Citizens We Should Be

<Local community outreach>



Noboru Sato

Sato (Yokkaichi Plant) The Yokkaichi Plant has a long operational history. It has regularly held dialogues with the local community, at good times and bad—for example, when it caused a problem. In order to give back to local communities, we believe it is vital to maintain a long-standing relationship, as we have. As for the MOS Indexes, we have decided to take the approach of quantifying individual actions, adding them up, and monitoring the status of these actions. This aims to visualize them kind of like a mileage program.

Facilitator I feel it is important to address both the activities we are continuing and the activities we are adding. However, I am concerned about how we can retain our contact with local communities amid the generational changes in both local communities and in our plants, where active and

influential players have left the front line. How can we groom a Mitsubishi Chemical representative to the local community? Quantifying our long-standing community outreach efforts to local universities and other entities in local communities will clarify what actions we should take and lead to continued dialogues.

Ikeda (Sakaide Plant) In the area surrounding the Sakaide Plant, the generation living there changes increasingly. We felt the need to bolster our community outreach to make ourselves known to them. We are purposely expanding our activities to plant tours, after-school learning programs, and guest research.

Facilitator "Pro bono" is a CSR activity that is often taken up these days. This is an activity where professionals support non-profit organizations, schools, and other groups by providing their specialized skills for free. It can be said that visiting experiment classroom is also a similar activity as Pro bono.



Toshio Ikeda

Kurume (Shinryo) Honestly, our company name, Shinryo, is not well known, even in the local area. However, after the Kitakyushu City Government honored us for our work-life balance efforts, we were asked more often to be featured in pamphlets issued by municipal authorities and to participate in seminars, and we have fully cooperated. We will work to establish Shinryo's corporate brand through these straightforward activities.

The Importance of Never Losing Sight of the Main Goal

<Future challenges in MOS Index monitoring>



Hisao Urata

Urata (CSO) After listening to your reports here, I have discovered a future issue about the MOS Indexes. This issue is that we should not manage our *KAITEKI* activities simply by monitoring the results of the MOS Indexes.. Quantifying the results of activities will make the company's management easier, but I wonder if the company's management really needs to manage these values itself, because the final objective of the MOS Index monitoring is to help the company naturally pay attention to sustainability in its day-to-day operations without just focusing on the MOS. In other words, our objective should not be to meet the MOS Index targets, but to have the MOS targets reflect our activities.

Facilitator In view of the point that the Indexes are not intended for control but for evaluation, establishing an evaluation method to track developments might be a key issue that should be studied at the same time.

Sato (Performance Products Division) I think it is certainly requisite to set targets for MOS activities as a commitment of Mitsubishi Chemical Holdings. Our challenge in the future will be to associate these with daily hands-on activities, and to disseminate them.

Ikeda (Sakaide Plant) The MOS Indexes include a wide range of criteria. For some of these criteria, we have already reached our goal for fiscal 2015 as a result of our activities over the past twelve months. With respect to these criteria, I think it is necessary to raise our target for the following fiscal years, instead of just maintaining the current level.

Facilitator In conclusion, I would like to ask Mr. Urata to wrap up this discussion.

Urata (CSO) I realize that you have had exhaustive discussions to create individual organization's MOS Indexes, and I have learned specifically how *KAITEKI* activities have been conducted. I believe that *KAITEKI* is achieved by thinking about what contribution we as a chemical company can make in offering *KAITEKI* to people around the world, including our employees, of course. What's most important in this context is to help achieve *KAITEKI* through our products. In this sense, I hope that staff members in our manufacturing plants, our division staff members that handle the products, and the staff members of our Group companies will be aware of the significant role they each have to play, and think about what they should do to achieve *KAITEKI* and directly put them into practice in their day to day operations.

Basic Concept

As a member of the Mitsubishi Chemical Holdings Group, the Mitsubishi Chemical Group follows the basic policies for management of the Group determined by Mitsubishi Chemical Holdings Corporation (MCHC), and shares the management policies and management strategies of the Group determined by MCHC. Mitsubishi Chemical Corporation also upholds the Group policies and rules determined by MCHC to ensure that it fulfills its corporate social responsibility in areas such as [Internal Controls](#), [Risk Management](#), and [Compliance](#)  (compliance with laws and corporate ethics), and actively pursues management initiatives to enhance corporate value as a core operating company of the MCHC Group.

▶ [To MCHC Management Plan page](#) 

Management Structure

Corporate Governance

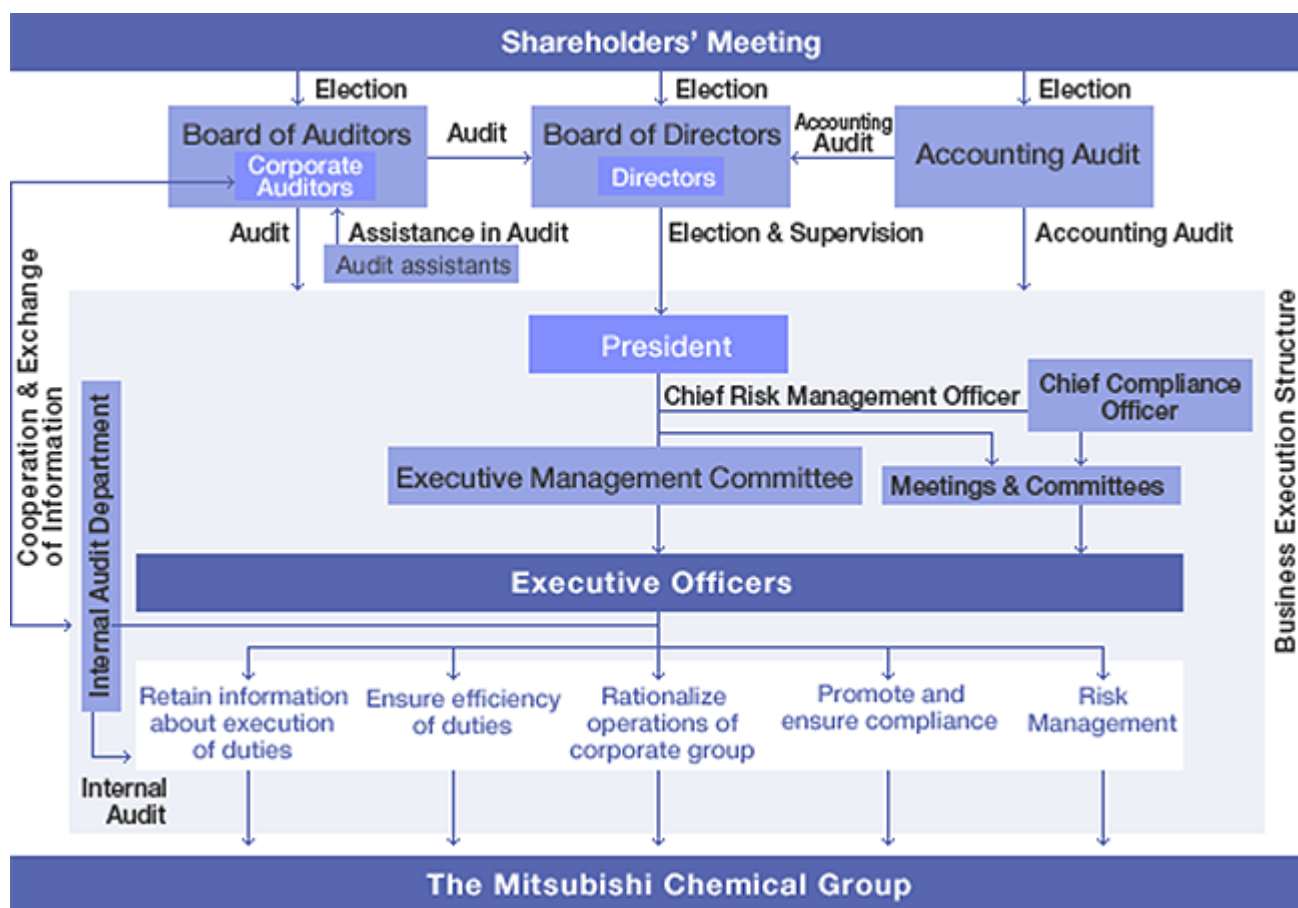
Policy

Corporate Governance

The Mitsubishi Chemical Group's top priorities for corporate governance are to ensure fast and efficient decision-making and business execution, clarify management responsibilities, ensure compliance, and strengthen risk management.

Mitsubishi Chemical Corporation (MCC) operates a basic corporate governance structure consisting of the Board of Directors, the Executive Management Committee, Corporate Auditors, and the Board of Auditors. The Company has rationalized managerial decision-making and execution, separating the executive and management functions through adoption of the executive officer system, and making provision in internal rules for deliberative and decision-making bodies such as the Board of Directors and the authority attached to various positions.

Corporate Governance Structure of the Mitsubishi Chemical Group (as of April 1, 2011)



Board of Directors

As a general rule, the Board of Directors meets once a month. The Board makes decisions on important managerial matters and basic matters concerning Group management, as well as auditing the execution of duties by Directors, in accordance with the Regulations of the Board of Directors and other relevant regulations. The six directors (four of whom concurrently serve as executive officers) form a management structure that can adapt quickly to a changing

environment and, to further clarify the managerial responsibilities and role of each Director, the term of office for a Director is one year. Candidates for Director are selected by the Board of Directors from among those human resources with the right skills and qualities to realize the management philosophy of the Mitsubishi Chemical Group and fulfill its social responsibility, are proposed at the Shareholders' Meeting, and are elected through a shareholders' resolution.

▶ [Annual Report](#) 

Executive Management Committee

The Executive Management Committee assists the President in making decisions, deliberating important matters concerning business execution such as the investment and financing of MCC and the Mitsubishi Chemical Group. Any important managerial matters deliberated by the Executive Management Committee are executed pursuant to a resolution of the Board of Directors.

As a general rule, the Executive Management Committee meets twice a month. The committee is comprised of the President, Directors, Executive Officers responsible for divisions and departments, and Corporate Auditors.

Corporate Auditors and Board of Auditors

MCC has Corporate Auditors and a Board of Auditors to audit and supervise its activities. Besides attending meetings of the Board of Directors and other important meetings and committees, the Corporate Auditors verify information contained in reports from Directors and other relevant parties, investigate the status of the Company's business and property, and audit the execution of duties by Directors. As a general rule, the Board of Auditors meets once a month to discuss and pass resolutions on important matters concerning audits such as the audit policy. As of the end of June 2012, MCC has four Corporate Auditors, including two external auditors. The Accounting Auditor and Audit Office cooperate closely when performing audits, exchanging opinions on their respective audit processes and audit results.

▶ [Annual Report](#) 

Meetings, etc.

The Company has a number of committees and meetings, including the Compliance Promotion Committee, the Risk Management Committee and the RC Promotion Meeting. Any important matters deliberated by such committees and meetings are referred or reported to the Board of Directors or the Executive Management Committee.

MCC also has local labor unions at its head office (includes branches and branch offices) and each of its offices and production sites, and these local labor unions form the Mitsubishi Chemical Labor Union Federation. Twice a year, the Company holds a central management conference for labor and management, giving both sides the opportunity to discuss management issues. Management headed by the President, union members led by the Labor Federation Chairman, and the representatives of each local labor union attend the conference and share their opinions candidly and honestly.

Basic Policy and Status of System Introduction

Mitsubishi Chemical Corporation (MCC) strives to strengthen and thoroughly implement its internal control system based on the basic policies decided by the Board of Directors. The Board of Directors inspects the implementation status of these basic policies at the end of every fiscal term and revises any specifics of the policies as needed.

Under APTSIS15, the new five-year mid-term management plan which started in April 2011, Mitsubishi Chemical Holdings Corporation (MCHC) is promoting the development of strategies for priority areas in global operations, targeting an overseas sales ratio of at least 45%. As part of this, MCHC established two wholly owned subsidiaries, setting up Mitsubishi Chemical Holdings America, Inc. in the United States in November 2010, followed by Mitsubishi Chemical Holdings (Beijing) Co., Ltd. in China in January 2011. These two subsidiaries have been assigned the role of representing MCHC as its public relations arm in the United States and China. They will develop and strengthen the management structure, building risk management and compliance structures, and providing management, supervision and guidance for internal audit structures. Through these overseas subsidiaries, MCC will further strengthen the efforts of internal control over MCC Group companies responding the local situations.

Taking into account the results of past evaluations of internal control system implementation and operating status, the Company will continue to conduct these evaluations with the aim of making them more efficient and effective. In addition, by improving internal control systems and standardizing procedures we will seek to raise procedural efficiency and promote rationalization.

Policy

Basic Policy

In May 2006, the Mitsubishi Chemical Group (MCC Group) implemented the Mitsubishi Chemical Group Risk Management Policy based on the Mitsubishi Chemical Holdings Corporation (MCHC) Group Risk Management Basic Policy. The purpose of this policy is to prevent major risks associated with business activities and to minimize damage should such risks materialize, so that the MCC Group can fulfill its social responsibility and bolster its corporate value.

Policy

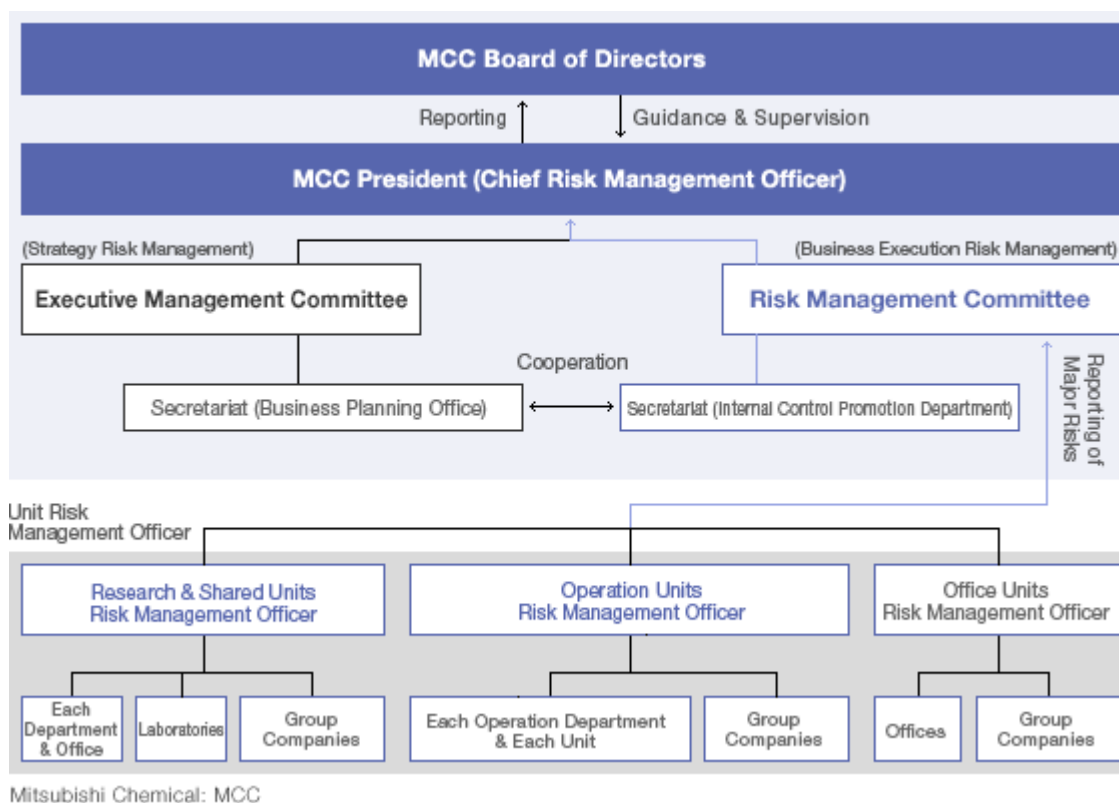
Risk Management Structures

The MCC Group has built a risk management structure headed by the President as Chief Risk Management Officer. The Chief Risk Management Officer is responsible for developing the Mitsubishi Chemical Group Risk Management System and ensuring that it operates and manages risk effectively, thereby helping maintain and enhance the corporate value of the entire MCC Group. Meanwhile, Executive Officers in charge of research, production, operations, technology and other departments operate and develop the risk management systems of their assigned departments or MCC Group companies, and provide them with guidance and support on risk management.

The Risk Management Committee, established to assist the Chief Risk Management Officer, meets once a year, in principle, and is also convened whenever necessary. The Risk Management Committee, comprising the Chief Risk Management Officer, executives responsible for unit risk management and Corporate Auditors, deliberates important matters relating to the development and operation of the Mitsubishi Chemical Group Risk Management System, management targets for major risks, risk control measures, and other matters related to risk management. The Risk Management Committee also reports progress in these activities to MCC Board of Directors and MCHC Chief Risk Management Officer on a regular basis.

The Risk Management Committee also monitors the development and operation of risk management systems at each MCC Group company and, if it identifies any risk factors that should be shared with other MCC Group companies, it urges MCC Group companies to eliminate or mitigate such risk factors.

● Risk Management Structure of the MCC Group



Policy

Identification of Major Risk

At least once a year, each of Mitsubishi Chemical Corporation(MCC)'s units and MCC Group companies identify and assess the risks they are facing and introduce risk control measures to continue to strengthen risk management.

Risks are identified in three categories – external risks from sources like natural disasters, market trends and the legal and regulatory environment; business process risks from sources such as production, financing, and marketing activities; and internal risks from sources like governance and human resource factors. Each risk is then assessed in terms of its impact—for example, financial loss, human loss, or loss of public trust—and its frequency of occurrence. An order of priority is determined for each risk and countermeasures for each risk are studied.

Additionally, from fiscal 2010, risks which, were they to materialize, would seriously impact on the MCC Group were extracted from risks identified by management as priorities for the MCC Group and risks that ought to be addressed given the social situation, and the Risk Management Committee confirmed the details of these risks and risk control measures.

In fiscal 2011, we intensively addressed compliance violations, country risks in overseas business expansion, and transport of hazardous and dangerous materials, among other risks we identified. In collaboration with MCHC, we moved forward with risk mitigation measures, including ; building risk management networks in Asia; eliminating high-risk long-distance transport of dangerous materials; handling overseas litigation; and toughening measures against drunk driving in our subsidiaries engaging in distribution. These measures were reported to the Management Committee of MCHC.

In fiscal 2012, we continued to develop our risk management system and ensure more effective operations of the MCC Group Risk Management System in view of the increased earthquake and tsunami risks identified after the experience of the Great East Japan Earthquake. Aside from that, we will accelerate the revision and formulation of our Business Continuity Plan. In an attempt to mitigate those risks that should be intensively addressed, such as compliance, overseas business expansion, raw material procurement, product supply, transportation of hazardous materials, and information security, we are making tangible progress.

Formulation of Business Continuity Plan (BCP)

MCC endeavors to formulate business continuity plans for continuing or quickly restoring operations and minimizing negative impacts on customers and business partners in the event risk becomes a reality, for example, in a natural disaster or other major calamity.

In fiscal 2007, we began formulating our BCP based on model products whose production would be threatened by the impact of a major earthquake in Japan's Tokai or Tonankai regions. In fiscal 2008, responding to the international standardization of BCP and demands from customers, BCP preparation guidelines were created, establishing basic ideas on the MCC Group's requirements for BCP preparation.

At the same time, we also drew up a manual of countermeasures to minimize damage in the event of an earthquake with its epicenter in the Tokyo metropolitan area or a new influenza pandemic, and formulated BCPs to enable departments to continue important operations during such a crisis. In addition, based on the lessons we learned from the Great East Japan Earthquake in March 2011 about systems to confirm employees' safety and to enable communication, we are overhauling our BCPs. As part of this, we are considering moving the head office function necessary for business continuation in the event that the head office is struck, in consideration of the extensive damage that would result if an earthquake were to hit central Tokyo or the Tokai region as is predicted. Through this overhaul, we will ensure that, even in the event of large-scale disaster, our head office will continue to function, which will enable us to carry out our responsibility to maintain product supply, the interruption of which would have a major social impact, such as not being able to supply products to vital service providers.

Management Structure Compliance

Policy

Compliance

Recognizing "Compliance" (compliance with laws and corporate ethics) as fundamental to business survival, the Mitsubishi Chemical Group is working to strengthen compliance as a top priority management issue.

Accordingly, the Mitsubishi Chemical Group has in place a Compliance Promotion Program for basic regulations, Structures for Compliance Promotion, education and training programs, auditing and monitoring structures and the employee hotline, and works to ensure that they are appropriately implemented and managed.

We will live up to the expectations of our stakeholders by providing valuable goods and services, while having a strong sense of corporate social responsibility and complying with social rules and regulations in our day-to-day operations.

● Compliance Promotion Program



Mitsubishi Chemical Corporation: MCC

Activities and Achievements

Fostering compliance awareness

It is important to persevere with training and education to embed a compliance culture throughout the company.

In fiscal 2011, we continued to improve various training programs in accordance with the policy determined by the Compliance Promotion Committee, which meets biannually. In particular, we organized training programs for compliance promotion officers, group managers (GMs)/section chiefs, and compliance promotion leaders at MCC and

the MCC Group companies, while we also emphasized independent e-learning training for employees. These training programs were designed to prompt trainees to think independently through group discussions and other activities.

MCC Group companies located overseas offered local training in Chinese and English, including group discussions in association with their respective promotion officers to positively move ahead with compliance. In collaboration with Mitsubishi Chemical Holdings, approximately 430 managerial-level employees attended training sessions from a total of 38 companies in China, Taiwan, Singapore, Thailand, Indonesia, and India.

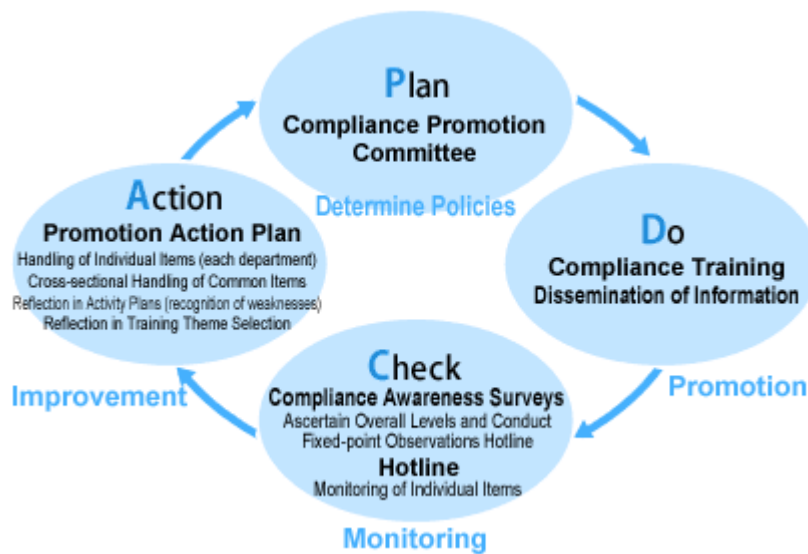


A seminar in Indonesia

Also to check the development of a compliance culture, we conducted our sixth compliance perception survey among employees of MCC and domestic group companies, receiving responses from some 21,200 employees. Similarly, we conducted our third compliance perception survey among employees of overseas group companies, using questionnaires prepared in Chinese, Indonesian, and English, and received replies from some 2,100 employees. If these surveys discover any matter that is believed to be insufficiently understood, we will add it as a training subject in an effort to increase understanding. A past training program tried to increase awareness of the importance of creating a working environment that allows employees to speak freely, but the results of the fiscal 2011 compliance perception surveys showed that there is still room for improvement. We are determined to continue our efforts to create a working environment that allows employees to speak freely in the future.

Further, if there is any matter that other organizations need to know about, we will make an effort to share the matter and make it more widely known in the Group, as appropriate.

● The PDCA Flow



Basic Regulations

The Mitsubishi Chemical Group works to promote compliance based on compliance regulations shared by members of the Mitsubishi Chemical Holdings Group, such as the [Mitsubishi Chemical Holdings Group Corporate Ethics](#) and the [Mitsubishi Chemical Holdings Group Compliance Code of Conduct](#).

Overseas, in particular, we have taken steps to ensure and strengthen compliance by preparing the Mitsubishi Chemical Holdings Group Corporate Ethics and the Compliance Code of Conduct in multiple languages (including English, Chinese, Indonesian, and Thai). The Compliance Code of Conduct was developed based on the Mitsubishi Chemical Holdings Group Corporate Ethics, and tailored to the regulations and social norms of each country

Management Structure

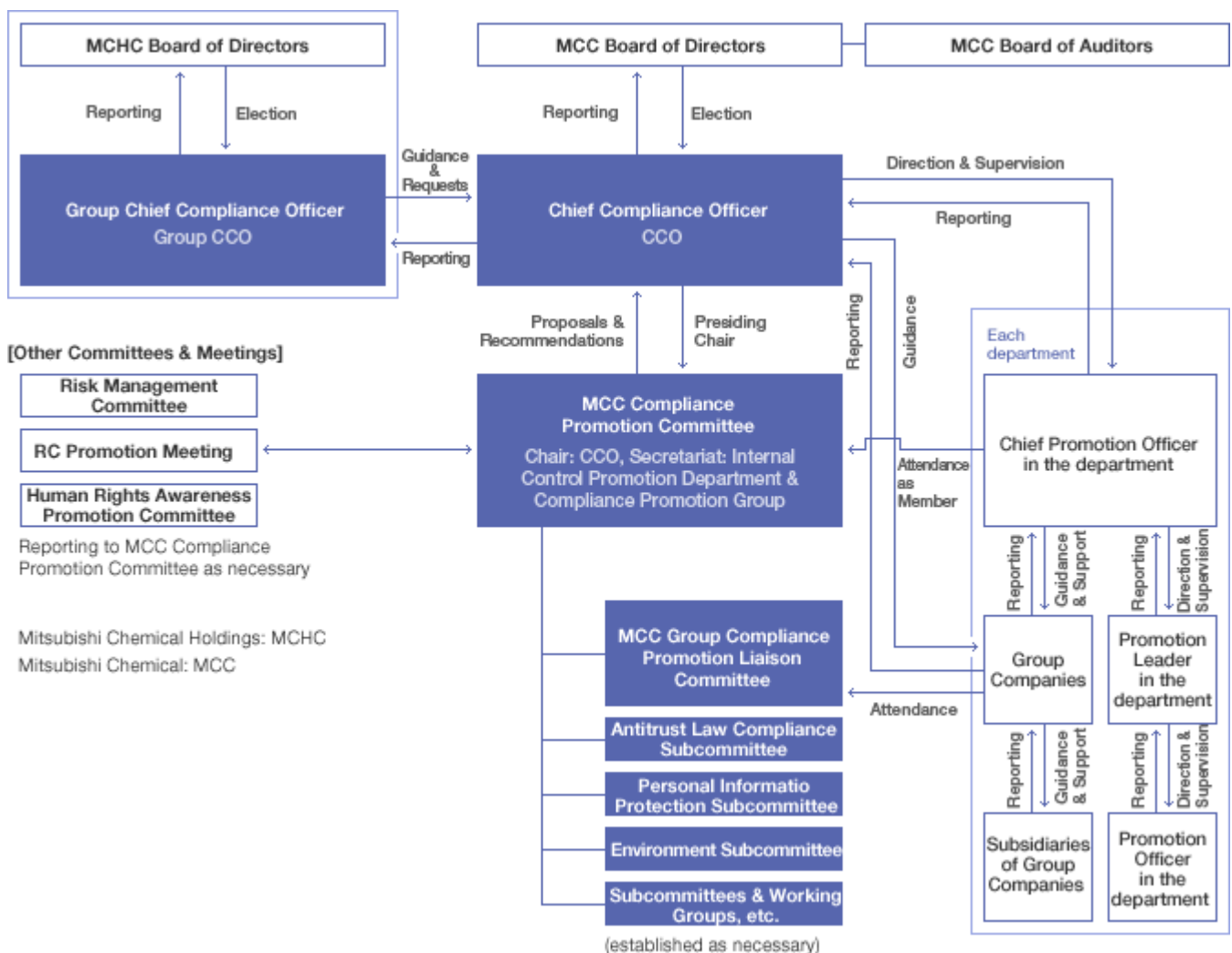
Promotional Structures

The Board of Directors of Mitsubishi Chemical Corporation (MCC) appoints the Chief Compliance Officer (CCO) for the Mitsubishi Chemical Group (MCC Group). The CCO has the authority to direct and supervise MCC departments and Group companies in matters relating to compliance, and chairs the Compliance Promotion Committee. The CCO also provides reports and explanations to the Board of Directors and others inside and outside MCC on any compliance issues faced by the MCC Group.

The Compliance Promotion Committee deliberates on matters such as the basic policy for development and operation of the [MCC Group's Compliance Promotion Program](#) and the performance of the program. It also makes necessary proposals and recommendations to the CCO. Chief promotion officers, promotion leaders, and promotion officers who are responsible for promoting compliance in each department on a daily basis are also nominated and appointed. The performance of their own department is evaluated from the perspective of ensuring and promoting compliance.

To also promote compliance in MCC Group companies outside Japan, chief promotion officers and promotion officers have been appointed in each Group company in Asia, and promotion leaders have been allocated in each country. In collaboration with Mitsubishi Chemical Holdings Corporation (MCHC), we are striving to develop and strengthen our overseas compliance promotion structures.

Compliance Promotional Structures of the Mitsubishi Chemical Group



Chief Compliance Officer (CCO)

The CCO is elected by a resolution of MCC's Board of Directors, and must report to the Board of Directors and the CCO of MCHC.

Mitsubishi Chemical Compliance Promotion Committee

The Compliance Promotion Committee deliberates on matters such as the basic policy for the Compliance Promotion Program, the performance of the program, action taken in the event of a compliance violation, as well as the preparation, amendment and abolition of regulations. It also makes proposals and recommendations to the CCO. The CCO takes action as necessary based on the Compliance Promotion Committee's proposals and recommendations.

Chief Promotion Officers, Promotion Leaders, Promotion Officers

Every department of MCC has the chief compliance promotion officer, the compliance promotion leader, and the compliance promotion officer. Their job is to ensure and promote compliance within their respective departments.

Supervision & Reporting

Auditing & Monitoring Structures

The Audit Office of Mitsubishi Chemical Corporation (MCC) gains an understanding of the status of compliance at individual business units by conducting an annual Control Self Assessment (CSA), in which it questions each of MCC's departments, offices, branches, branch offices, and Group companies about compliance.

The Mitsubishi Chemical Group has also been conducting a Compliance Perception Survey among employees of MCC and domestic Group companies once a year since fiscal 2006, and a Compliance Perception Survey among employees of overseas Group companies once a year since fiscal 2009, to gain an insight into their actual compliance culture, employees' awareness and views of compliance, and the development of compliance awareness.

Employees' Hotline

In fiscal 2002, the Mitsubishi Chemical Group established an employees' hotline, providing employees with a way to contact the Internal Control Promotion Department General Manager or an outside lawyer to seek advice or report possible compliance violations. The Group has since been working to ensure that the hotline is operated properly and employees know about it.

Anyone seeking advice or reporting a possible compliance violation is assured that that the information they provide will be treated confidentially, they will not be subjected to disadvantageous treatment, and their privacy and human rights will be protected. An investigative team led by the Internal Control Promotion Department General Manager act upon the information provided. Any problems identified are dealt with and resolved promptly under [the direction of the Chief Compliance Officer \(CCO\)](#). In fiscal 2011, the hotline received 46 reports and inquiries, of which 8 were labor-related, 20 were working environment-related, 8 were legislation-related and 10 related to other matters.

MCC is committed to making the hotline user-friendly, using a toll free hotline number and surveying people who have used the hotline some time afterwards to check that they have been properly protected.

Response to Compliance Violations

In the event of a compliance violation, an appropriate initial response is made to rectify or otherwise deal with the situation. In addition, an investigation to determine the cause of the violation is carried out and efforts to prevent a recurrence are made. Any employee who has committed a compliance violation is dealt with as necessary, possibly with disciplinary action in accordance with the Employee Work Regulations or other relevant regulations of the MCC Group Company to which the employee belongs. If it is deemed necessary to prevent a recurrence of the compliance violation, the CCO may disclose facts of the violation and details of the disciplinary action within the Mitsubishi Chemical Group, on condition that the privacy and human rights of the person subject to disciplinary action are protected.

Mitsubishi Chemical Holdings Group Corporate Ethics

We, constituent members of the Mitsubishi Chemical Holdings (MCHC) Group, shall share the following ethical standards and act with sound ethics and good common sense, and exert our utmost to ensure sustained development as a corporate group that engenders society's trust, in every aspect of our corporate activities.

1. Awareness and Responsibility

Based on the basic understanding that the foundation of our corporate activities is society's trust and confidence in us, we shall endeavor to contribute to the realization of an affluent and enriching society through respective business activities with a keen sense of corporate social responsibility.

2. Fairness, Equitability and Integrity

We shall respect the dignity and rights of all people and shall not engage in invidious discrimination for any reason whatsoever, be it racial, gender or religious. Furthermore, we shall deal with third parties including customers, suppliers, vendors, shareholders, business partners, administrative organs and local communities who associate with the MCHC Group, in a fair, equitable and sincere manner. The same holds true for relations among inter-MCHC Group constituent members.

3. Strict Compliance

Strict compliance constitutes the foundation as a member of society. "Never engage in unlawful activities," is a natural social norm (legal and ethical standards), which must be observed at all times.

At the MCHC Group, we shall act in accordance with the following standards in order to avert possible risks that may lead to illegality:

- (1) Continue to sharpen sensitivity toward illegal conduct.
- (2) Never engage in suspected illegal activity.
- (3) Do not be optimistic in evaluating risk of illegality.
- (4) In the event that an illegal act is committed, do not conceal or justify it.
- (5) Avoiding risk of illegality takes precedence over corporate interest at all times.

4. Prudence

With respect to inter-company or inter-group relationships, as well as relationships with our customers, vendors and business partners, we shall avoid improper associations and maintain proper relationships that conform to prevailing social standards, to prevent misunderstanding.

In particular, we shall make a clear distinction between official and private matters and shall not exploit one's position or status as a member of the MCHC Group to pursue one's own personal interests in any business activity.

5. Transparency and Openness

Recognizing the importance of accountability in corporate activities, we shall maintain transparency in our corporate activities and proactively disclose appropriate information to uphold "openness" within and without the Company.

Mitsubishi Chemical Holdings Group Compliance Code of Conduct

At the MCHC Group, the meaning of the word "Compliance" goes much further than simply complying with laws and regulations. It means compliance with social rules and norms in a broad sense, including corporate ethics. We must develop a strong sense of corporate social responsibility, comply rigorously with social rules and regulations and live up to the expectations of our stakeholders, including customers, suppliers, vendors, consumers, investors such as shareholders, business partners, employees and local communities.

Chapter 1: Awareness and Responsibility

1-1: Awareness of Social Responsibility

Recognizing corporate social responsibility, we will strive to win public trust by contributing to the affluence and comfort of society by offering socially beneficial goods and services based upon the expertise and technologies we have developed in various fields of endeavors, including chemistry.

1-2: Responsible Care for the Environment

We will commit ourselves to the protection of the environment and endeavor to reduce environmental burden in the course of all our business activities, including promotion of resource and energy conservation, waste reduction, reuse and recycling, as well as environmental conservation and development of its technologies.

1-3: Responsible Care for Safety

Recognizing safety assurance as a corporate social responsibility, we will place top priority on safety in the course of all our business activities, which include ensuring the safety of all our products and services, including adequate handling of chemical substances, as well as operational safety.

Chapter 2: Fairness, Equitability and Integrity

2-1: Respect for the Dignity and Rights of Individuals

We will respect individual human rights and character. We will abstain from any conduct that undermines individual dignity, such as discrimination against others on the basis of race, ethnicity, national origin, religion, gender, disability, disease and social status; we will also avoid language and behavior that offends others, such as sexual harassment. We will also adhere to internationally recognized norms, eschew forced labor in all of its forms, and support the effective abolition of child labor.

2-2: Creating a Motivational Workplace

We will strive to create a motivational workplace that provides job satisfaction to Group members through the nurturing of respect for diverse personalities and values, the creation of a free and open-minded working environment in which individual employees can manifest their best qualities, and the fostering of mutual trust through fair and equitable personnel treatment.

2-3: Customer Relations

We will listen to the voices of our customers and take a pro-customer approach so that we will be able to respond with utmost sincerity and offer safe and high-quality products and services.

2-4: Partnership/Vendor Relations

Based on the basic understanding that all business partners and vendors are our partners in conducting business, we will endeavor to foster mutual trust through fair and equitable transactions.

2-5: Ethical Business and Government Relations

We will abstain from illicit political donations, illegal incentives and bribe-giving to politicians and

public servants, and strive to maintain healthy and transparent relations with political and governmental organizations at all times.

2-6: Severing Ties with Anti-Social Influences

We will take a firm stand against anti-social influences that disrupt social order and threaten sound activities, and never involve ourselves in malfeasance or anti-social conduct. We will not provide any favors, including financial, to anti-social influences, under any circumstances whatsoever.

Chapter 3: Strict Compliance

3-1: Compliance with Laws and Regulations

We will conduct business by adhering to high ethical standards and sound common sense, and comply with all relevant laws and regulations in and outside of Japan, socially-recognized rules and standards, agreements and promises we have entered into with our customers, vendors, business partners and local communities, as well as our corporate rules and manuals.

In particular:

- i We will comply with relevant administrative laws and regulations applicable to our businesses and perform procedures required by such, including obtaining official approval and licenses and notification; and reporting properly and in complete detail.
- ii We will comply with the Antimonopoly Act* and other relevant laws and regulations, abstain from illegal conduct such as forming cartels, engaging in bid-rigging and abusing one's dominant bargaining position, and participate in fair and free competition in the marketplace.
- iii We will comply with the Unfair Competition Prevention Law* and other relevant laws and regulations, and shall not pursue our commercial interest by improper means such as illicit acquisition of others' trade secrets, or acts that may be detrimental to others' commercial interests.
- iv We will comply with the Subcontract Act* and other relevant laws and regulations and abstain from engaging in conduct that may be detrimental to subcontractors' interests, such as delays in payment.
- v We will comply with the Foreign Exchange and Foreign Trade LawAct* and other relevant laws and regulations, and properly handle the import/export of raw materials, products, and other items. We will also abstain from exporting products and technologies that may destabilize international peace and security.
- vi In addition to laws and regulations pertaining to accounting procedures and taxes, we will abide by generally accepted accounting standards as we implement proper accounting procedures, ensure the reliability of our financial reports, and make appropriate tax payments.
- vii We will comply with the Labour Standard Law* and other relevant laws and regulations, and strive to maintain pleasant working conditions including occupational safety and health.
- viii We will not engage in fraudulent transactions prohibited under the Financial Instruments and Exchange Act* and other relevant laws and regulations, including the trading of stocks and corporate bonds by taking advantage of undisclosed information one has come to know in the course of one's work.
- ix We will correctly record business transactions and activities, including the signing of contracts, and properly manage and maintain the records in accordance with relevant laws and regulations as well as relevant internal rules.

Note: The names of individual laws referred to in this Chapter are those then effective in Japan and, therefore, please replace them with corresponding laws and regulations of your country.

3-2: Protection of Intellectual Property

We will endeavor to develop innovative technologies, products and services, and obtain intellectual property rights and commercialize them. In this process, we shall not infringe upon the intellectual property owned by other parties, including patents, utility models, designs, trademarks and

copyrights.

3-3: Protection of Personal Data

We will strictly control personal data pertaining to employees, customers and other stakeholders that we may have access to in the performance of our duties. Unless personal consent is secured, we will not disclose or leak any personal data to third parties or other employees who have no need to acquire the information in terms of business, and, at the same time, will not use it for purposes other than the original intent.

3-4: Confidentiality

Strict control must be maintained over trade secrets and other confidential information belonging to the company or to third parties (including customer information and technical know-how) that one might obtain in the performance of one's business duties. Without the express permission of the proper authorities, such confidential information must never be disclosed or leaked to third parties or to internal staff who have no legitimate need for it, and must never be used for purposes other than the original intent.

Chapter 4: Prudence

4-1: Prudent Conduct

In our relationships with customers, vendors and other business partners, we will not engage in misleading acts such as offering or receiving business entertainment and gifts that go beyond business norms or exceed the bounds of limits acceptable to the industry.

4-2: Appropriate Use of Corporate Assets

Corporate assets and expenses, both tangible and intangible, must be used properly to achieve corporate business objectives and must not be used for personal purposes.

4-3: Appropriate Use of Information Systems

Pursuant to relevant internal rules, corporate networks and operation software will be used only for business operations authorized by the company. Wrongful acts such as hacking into the information system, damaging, falsifying or altering data, or making unauthorized use of computer software, are not permitted.

4-4: Preventing Conflict of Interest

We shall not exploit our official positions and authority or information we may have access to in the performance of our duties to engage in acts that benefit ourselves or third parties, nor shall we involve ourselves in activities that may compete against our corporate businesses, without corporate permission.

4-5: Prohibition of Political/Religious Activities at the Workplace

We will not engage in political or religious activities at the workplace, including solicitation on behalf of political or religious groups or requests for votes, without corporate authorization.

4-6: Discontinuance of Empty Formalities

Except for those within the acceptable business norms, in-house and inter-Group gift-giving and exchange of gifts and items should be shunned in view of abolishing empty formalities.

Chapter 5: Transparency and Openness

5-1: Co-existence with Local Communities

We will strive to deepen our understanding of the cultures and customs of the countries and

communities in which we operate our businesses, respect their social norms, and harmoniously co-exist with local communities as good corporate citizens through participating in activities that contribute to society.

5-2: Appropriate Disclosure of Information

As a corporate group open to society, we will maintain the transparency of our activities and appropriately disclose relevant information to promote public understanding of our activities. Pursuant to relevant laws and regulations, we will also accurately and adequately disclose financial data and information pertaining to the state of our business activities to shareholders and investors.

5-3: Open Workplace

We will maintain an open environment at the workplace where members feel comfortable about discussing anything. If, at the workplace, one learns of acts committed that violate laws and regulations or transgress this Code of Conduct, or the possibility of such acts, one must not conceal or neglect it but report it to the Company for a solution through the management or other systems, such as the Compliance Hot Line.

Intellectual Property Protection and Prevention of Infringements

Mitsubishi Chemical Corporation (MCC) will endeavor to develop innovative technologies, products and services and obtain intellectual property rights and commercialize them. In this process, we are taking steps to avoid infringing on intellectual property owned by other parties, including patents, utility models, designs, trademarks and copyrights, while legally protecting MCC's intellectual property.

▶ [To Intellectual Property page.](#) 

Responsible Care (RC) Activities

Policy

Basic Approach

In our role as a chemical corporation group with established business bases within Japan and abroad and supplying diverse materials, products and systems to a wide range of industries, stably supplying products and ensuring their quality and safety, offering safe and hygienic work environments and promoting businesses with lower environmental load are among our most important social responsibilities.

Based on this philosophy, the Mitsubishi Chemical Group has participated in Responsible Care (RC) activities, which are self-initiated activities by the chemical industry for ensuring environmental conservation, health, and safety, since the foundation of the Japan Responsible Care Council in 1995. The five mainstay activities are process safety and disaster prevention, occupational safety and health, environmental preservation, quality assurance and chemical safety. By conducting activities that conform to the Mitsubishi Chemical Group RC Promotion Policy, we aim to build relations based on trust with the public and help in developing a sustainable society.

Mitsubishi Chemical Group RC Promotion Policy

- 1. Environment and safety are core focuses of our business activities** [Find out more](#)
- 2. Committed to customer confidence and quality assurance** [Find out more](#)
- 3. Targeting zero accidents and workplace injuries** [Find out more](#)
- 4. Working to minimize waste and harmful chemical substance emissions** [Find out more](#)
- 5. Working to conserve resources and energy** [Find out more](#)
- 6. Developing technologies and products that contribute to the environment and safety** [Find out more](#)
- 7. Working to strengthen our public reputation** [Find out more](#)

Mitsubishi Chemical Group companies promoting RC Activities*

◎ denotes subsidiaries of Mitsubishi Chemical as stipulated by the Japanese Companies Act, for which Group performance data are collected and published on the Social Responsibility page

○ denotes (overseas) subsidiaries of Mitsubishi Chemical as stipulated by the Japanese Companies Act, for which Group performance data are collected on the Social Responsibility page

Unmarked companies indicate those outside the scope of Group performance data collection on the Social Responsibility page.

* To further ensure promotion of Responsible Care (RC) activities, among domestic and overseas Mitsubishi Chemical Group companies, principally companies with operating divisions that handle chemical products participate as Mitsubishi Chemical Group companies promoting RC Activities.

Performance products domain

- ◎Shinryo Corporation
- ◎Chuo Rika Kogyo Corporation
- ◎Nippon Kasei Chemical Co., Ltd
- ◎Nippon Synthetic Chemical Industry Co., Ltd.
 - Frontier Carbon Corporation
- ◎Mitsubishi Chemical Analytech Co., Ltd.
- ◎Mitsubishi-Kagaku Foods Corporation
- ◎Mitsubishi Kagaku Media Co., Ltd.
- ◎Yuka Denshi Co., Ltd.
- Qingdao Anode Kasei Co., Ltd.
- Changshu MC Ionic Solutions CN Co., Ltd.
- Tai Young Chemical Co., Ltd.
- Tai Young High Tech Co., Ltd.
- Mitsubishi Kagaku Imaging Corporation
- Mitsubishi Chemical Infonics Pte Ltd.
- Resindion SRI
- MC Ionic Solutions UK, Ltd.
- MC Ionic Solutions US, Inc.

Healthcare domain

- ◎API Corporation
- ◎Mitsubishi Chemical Medience Corporation

Industrial materials domain

- ◎Echizen Polymer Co., Ltd.
- ◎M Commerce Co., Ltd.
 - Kashima-Kita Joint Electric Power Corporation
 - Kashima Motor Co., Ltd.
 - Kawasaki Kasei Chemicals Ltd.
- ◎Kansai Coke and Chemicals Co., Ltd.
 - San-Dia Polymers, Ltd.
 - J-Plus Co., Ltd.
 - TM Air Co., Ltd.
- ◎Japan Polychem Corporation
 - Japan Unipet Co., Ltd.
 - Mitsubishi Engineering-Plastics Corporation
 - Yupo Corporation
- ◎RHOMBIC CORPORATION
- APCO (Suzhou) Co., Ltd.
 - Sam Nam Petrochemical Co., Ltd.
- Sunprene (Thailand) Co., Ltd.
 - Sam Yang Kasei Co., Ltd.
- Ningbo Mitsubishi Chemical Co., Ltd.
- Beijing Ju-Ling-Yan Plastic Co., Ltd.
- Pt. Mitsubishi Chemical Indonesia
- Mitsubishi Chemical Performance Polymers, Inc.
- MCC PTA India Corporation Private Limited
- MCC Advanced Polymers (Ninbo) Co., Ltd.

Others

- ◎Mitsubishi Chemical Engineering Corporation
- ◎Mitsubishi Chemical Group Science and Technology Research Center, Inc.
- ◎Mitsubishi Chemical High-Technica Corporation
- ◎Mitsubishi Chemical Logistics Corporation

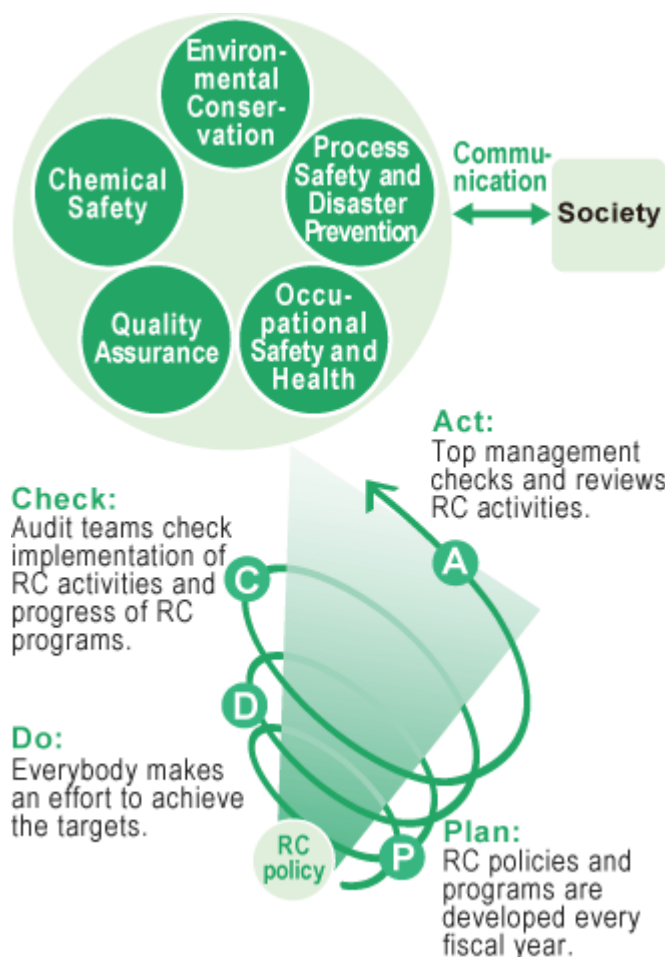
Policy

Responsible Care (RC) activity promotion organization

The Mitsubishi Chemical Group RC Promotion Committee meets annually, chaired by the president of Mitsubishi Chemical with operating officers in charge of research, manufacture, operations, and common divisions participating. The meeting examines and finalizes RC activity plans for the entire Group and confirms the progress in the plan-do-check-act (PDCA) cycle for RC activities.

Based on the activity policies and plans finalized at the meeting, divisions of Mitsubishi Chemical and Group companies develop activity plans fitted to the type and description of their businesses and conduct RC activities.

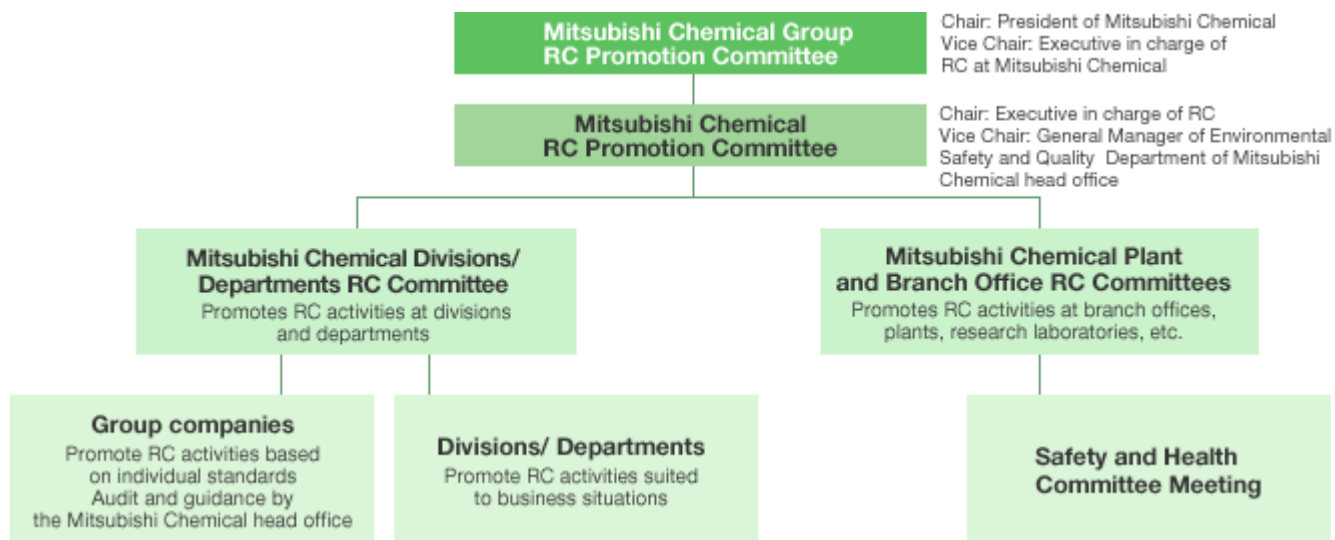
● RC activities of the Mitsubishi Chemical Group



Responsible Care (RC) activity promotion organization at the Mitsubishi Chemical Group and Mitsubishi Chemical

The Mitsubishi Chemical Group RC Promotion Committee, chaired by the President of Mitsubishi Chemical, meets once a year to examine and finalize the Mitsubishi Chemical Group RC Activity Policy. The Mitsubishi Chemical RC Promotion Committee, chaired by the executive in charge of RC and bringing together the heads of manufacturing, research, sales, operations, common divisions, and other areas, meets annually to examine and finalize the outcomes of activities based on the fiscal year's RC Activity Policy of Mitsubishi Chemical, along with policies for the next fiscal year. All locations and divisions develop their own RC activity plans pursuant to the Mitsubishi Chemical RC Activity Policy, and then execute the activities.

RC promotion organization at Mitsubishi Chemical and the Mitsubishi Chemical Group



RC activity promotion organization of Group companies

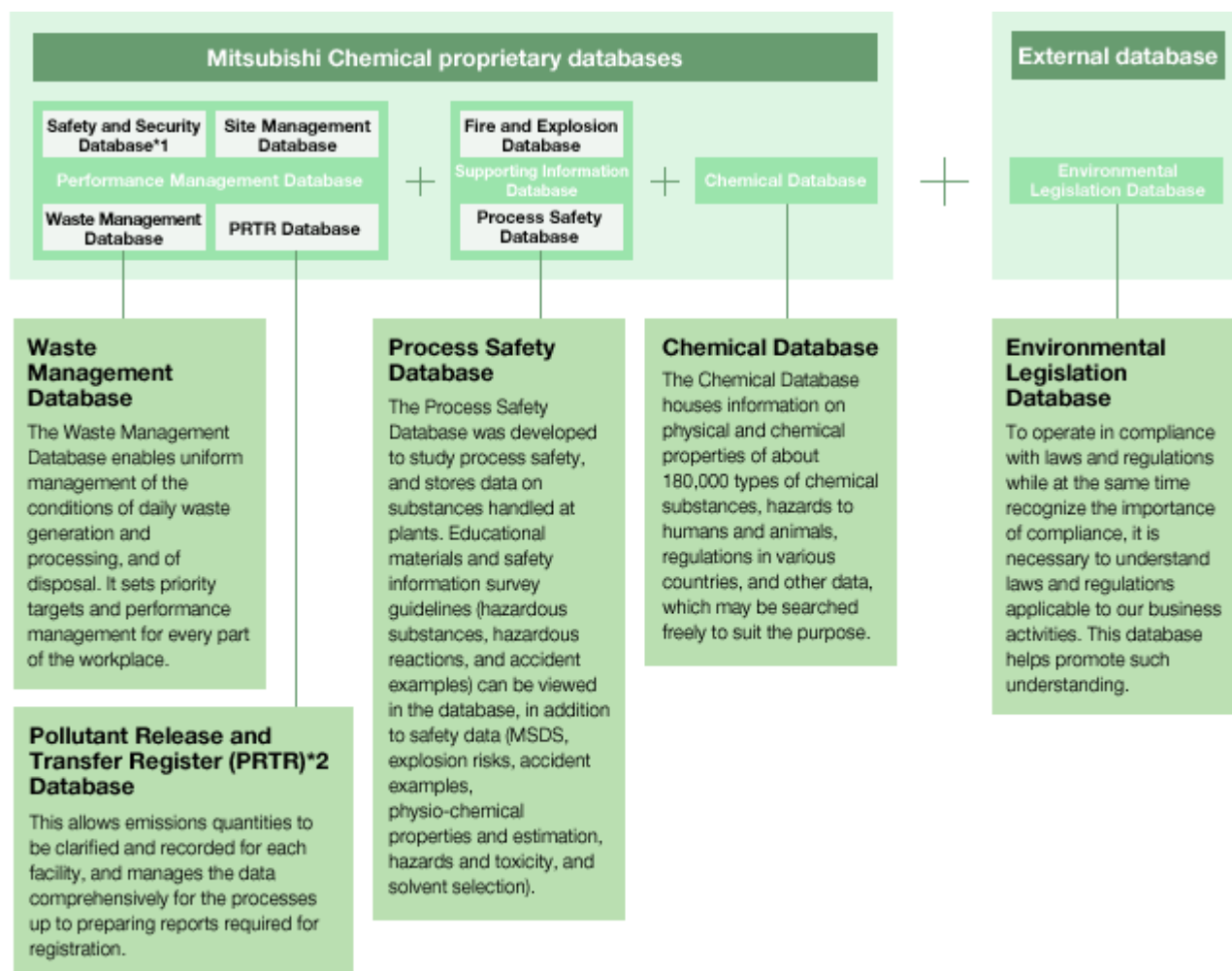
Group companies have established organizations tailored to their business activities, and charged with efficiently promoting RC activities along with Mitsubishi Chemical. Mitsubishi Chemical conducts regular audits to confirm progress in activities at Group companies and to provide advice.

Policy

Developing databases for environmental conservation, safety and security

Mitsubishi Chemical configures the Environmental Protection and Safety Database as a system to support RC activities. Information related to RC is shared and managed using a database at each stage from product development to manufacturing.

● Environmental Protection and Safety Database



*1 Database: DB

*2 Pollutant Release and Transfer Register (PRTR): a system of notification on the released and transferred amount of chemical substances—to clarify, aggregate, and publicize data on the quantity hazardous chemical substances released into the environment and from individual sources, or carried outside of facilities as part of waste materials.

Policy

RC audit

The Mitsubishi Chemical Group conducts RC audits at each facility and division engaged in manufacturing, research and operations of Mitsubishi Chemical and Group companies to evaluate whether RC activities are being implemented appropriately and effectively in compliance with laws and regulations and internal standards.

The audits are mainly conducted with respect to environmental management and safety activities, and were undertaken at eight business sites and two research institutes of Mitsubishi Chemical during fiscal 2011. As well as confirming the state of improvements to environmental management made based on audit results from the previous fiscal year, we also confirmed matters of legal compliance with a particular focus on the handling of data for each task related to environmental management. On another front, audits of safety activities looked closely at trouble recurrence prevention and safety management at plants.

Audits were also conducted at 15 business sites of Group companies (ten domestic companies and five overseas companies). As well as confirming the RC activities underway at each company, advice on specific improvements and activities were given through the audits.

Through these audit activities, the Mitsubishi Chemical Group is making progress in improving safety levels.

Revising Business Continuity Planning (BCP)

While Mitsubishi Chemical's Kashima Plant also suffered damage when the Great East Japan Earthquake struck on March 11, 2011, failsafe devices engaged when the earthquake struck and managed to safely shut down the entire plant. Mitsubishi Chemical coordinated with related government agencies during the restoration process, placing a priority on the securing of utility services such as industrial water supply, power and nitrogen, which are necessary for maintaining safety. We also undertook equipment inspections, maintenance and repair, and the entire complex worked as a team to execute the restoration plan and conduct thorough safety checks prior to resuming operation. As a result, the plant managed to resume production in short time. To utilize these experiences and minimize the impact on product supply chains at all Mitsubishi Chemical business sites, we are undertaking a review of our business continuity plan (BCP).

Responsible Care Activities
Process Safety and Disaster Prevention

Policy

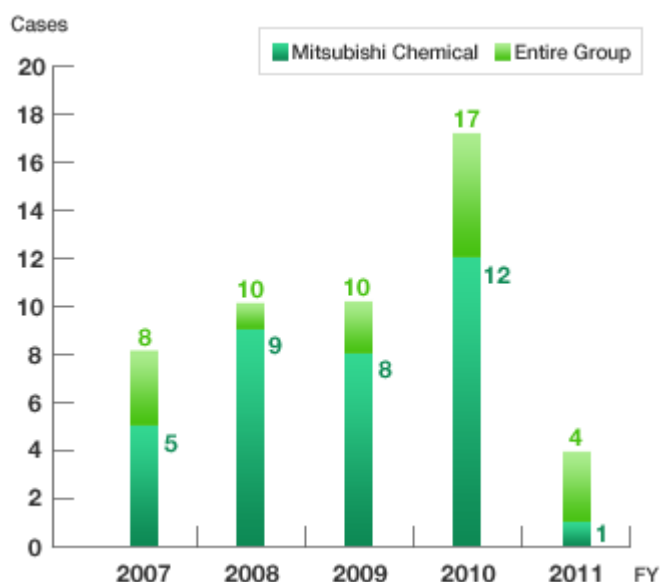
Promoting Priority Measures for Zero Facility-Related Accidents

MOS Indexes C-3: Recognition of corporate trust > [Find out more](#)

Recognizing that safety is the foundation of corporate activities, Mitsubishi Chemical undertakes safety activities that aim to achieve zero facility-related accidents. In fiscal 2011, under a policy of safety-first awareness as set forth in the **APTSIS 15** mid-term management plan, efforts were made to promote safety activities and prevent accidents.

In addition to promoting enhanced facilities management, as a means of improving convincing and effective measures for preventing recurring accidents and serious trouble we verified whether safety measures that were implemented to prevent the recurrence of accidents and trouble are effective, and whether measures against accidents and trouble implemented in the past have retained their efficacy. In RC audits conducted at each business site, we confirmed the specific details and effectiveness of work management and operational status of safety assessments carried out when changing equipment or operational conditions, and fully implemented countermeasures. Through these activities, in fiscal 2011 we managed to reduce the number of facility-related accidents compared with the previous year at Mitsubishi Chemical and across the entire Mitsubishi Chemical Group.

● **Number of facility-related accidents**



Increasing the safety of processes, facilities, and work procedures by developing SA and SR activities

When starting to manufacture new products or improve existing processes, the Mitsubishi Chemical Group conducts safety assessments (SA) on manufacturing methods and processes at each stage of development, construction, and operation.

For facilities and work procedures with existing processes, Safety Review (SR) instructors*1 plants have evaluated potential risks comprehensively, systematically and continuously since 2003 to promote SR that further increases safety.

One of the evaluation methods used is HAZchart analysis, developed jointly by Mitsubishi Chemical and Mitsubishi Research Institute, Inc. This is an evaluation method that enables process designers and those in charge to use at worksites and make decisions based on quantitative findings. It facilitates processes from accident scenario formulation to quantitative evaluation, allows worst-case scenarios to be easily assumed, enables common factors and phenomena to be easily handled, and offers a host of other features. By using supporting software, anyone can easily conduct safety evaluations.

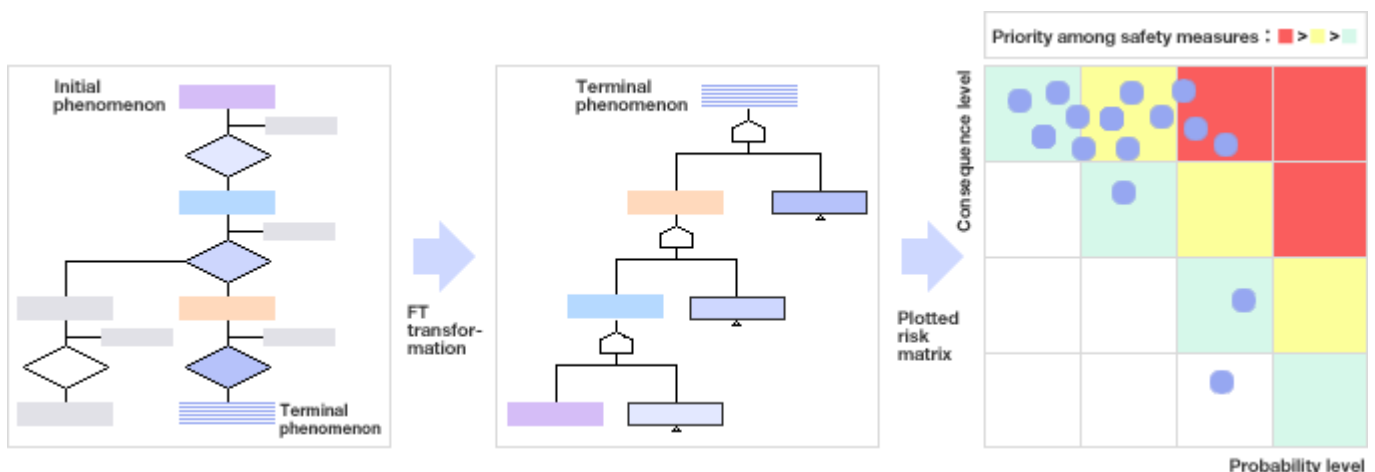
HAZchart analysis is currently being used at Mitsubishi Chemical in times of large-scale reform or establishment of plants with potential risks such as fire, explosion or leakage of toxic substances, and also at times of process safety review (total checking on process safety) at existing plants.

From fiscal 2010 to fiscal 2011, the supporting software was significantly improved to make the tool even easier to use and understand. Taking the situation as an opportunity, efforts will be made to disseminate the analysis tool even further throughout the Mitsubishi Chemical Group. We are also considering commercialization of the software in the future as PHAOrganizer Ver. 3.

*1 SR instructors: Senior staff and engineers with ample knowledge and experience in processes and safety measures assume this role.

Instructors take part in SR for all plants conducted at the establishment they are in charge of. They identify and extract risks and utilizing risk analysis methods they conduct objective risk assessment in order to support efforts to reduce risk.

● Flow of HAZchart analysis



Preparation of accident scenario using HAZchart > Transformation to FT*2 to calculate the occurrence probability > Results are plotted on the risk matrix for evaluation, based on which safety measures are formulated

*2 Fault tree (FT): Also referred to as a failure tree diagram, this is used for analyzing the causal relationship concerning accidents in systems and calculating occurrence probability.

Policy

Boosting plant reliability by sophisticating and disseminating fire- and explosion-prevention technologies

The Mitsubishi Chemical Group has established the Safety Engineering and Environmental Integrity Group within the Mitsubishi Chemical Group Science and Technology Research Center for enhancing existing technologies and measures related to safety.

The group works to sophisticate technologies for risk forecast of chemical substances, verification and process risk evaluation in order to prevent fire, explosion and leakage of harmful substances, in each phase from research and development (R&D) to manufacturing, transport, use and disposal of the product. At the same time, a safety technology database is being developed at the group and disseminated among all Mitsubishi Chemical Group companies.

The latest safety technologies and information are being used for enhancing plant reliability in R&D and SA and SR when a new plant is constructed or existing facilities are modified. If an accident or trouble occurs, the group investigates the causes from scientific viewpoints and proposes measures for recurrence prevention.

Process safety education also began in fiscal 2009 for the middle-tier workers of each plant. Lessons may be applied to safety evaluation on substances and plants with which participants are involved in daily work. Each year more than 250 workers take courses, and to date some 750 workers have put this education to use in their actual work. At present, the education only covers Mitsubishi Chemical employees, but consideration is being given to expanding the initiative to cover the employees of Group companies in the future. Education will continue being given in order to strength the workforce's abilities.

Activities and Achievements

Accident-prevention drills focusing on logistics safety

Along with Mitsubishi Chemical Logistics Corporation, Mitsubishi Chemical also works to prevent accidents in logistics processes. Accident prevention drills are conducted at least once a year at major logistics centers, assuming various logistics accidents. Issues revealed through the drills are addressed promptly in order to make improvements, thereby also establishing organizations that can smoothly handle emergency situations.



Drill assuming oil leakage from tankers
(confirming stoppage of the leakage)

Strengthening Earthquake Countermeasures

Some Mitsubishi Chemical Group plants and business sites were affected by the Great East Japan Earthquake which struck in March 2011, with the Mitsubishi Chemical Kashima Plant, which includes a large-scale petrochemical plant, suffering significant damages. However, existing countermeasures at the Kashima Plant functioned effectively. Failsafe devices engaged automatically when the earthquake struck and managed to safely shut down the entire plant. Further, since the equipment employed earthquake-resistant designs, the manufacturing plant did not suffer significant damage. On the other hand, while the flooding from tsunami waves caused severe damage to infrastructure equipment and particularly port facilities, no facility-related accidents or work-related injuries occurred, allowing the plant to tackle the crisis in a safe manner. All of the Mitsubishi Chemical business sites are utilizing the experiences and lessons from the earthquake and taking necessary action based on the current situation and results of risk assessments at each location. Basically, on the premise that the earthquake resistance of plants meet the requirements stipulated in the High Pressure Gas Safety Act and buildings are in compliance with the existing Act for Promotion of Renovation for Earthquake-Resistant Structures of Buildings, Mitsubishi Chemical is taking the necessary action according to the following order of priority: (1) protecting people's lives; (2) achieving safe plant shutdown and preventing impact from expanding to the outside; and (3) ensuring the responsibility for supply. Looking ahead, Mitsubishi Chemical also plans to take measures with regard to earthquakes, tsunamis and liquefaction in tune with the policies and directions presented by the government.

Front Runner

Commended as an Excellent Business Establishment

Tsukuba Center, RD Strategies Office,
Corporate Strategies Division, Mitsubishi Chemical Corporation

Tsukuba Center has manufactured nitrogen gas since 1986 and in recognition of its accident-free record related to high-pressure gas as well as its record of no violations to date, it was commended as an excellent business establishment by the Chairman of the Kanto Federation of High-Pressure Gas Safety Organizations on July 27, 2011, based on the recommendation of the Ibaraki Prefecture Regional Disaster Prevention Council under the Ibaraki Prefecture High-Pressure Gas Safety Association.

In Tsukuba Center, liquefied gas and compressed gas are stored in a liquefied nitrogen manufacturing facility that falls in the category of Class 2 high-pressure gas manufacturing facility and Class 2 storage, although the manufacturing volume is not large. The facilities are being managed by regular patrols, data checks and recording, and regular voluntary inspection by experts. Facility workers have participated in outside seminars on facility safety and other matters to acquire knowledge and technologies. In addition, the safety administrator has given facility safety education to persons who handle high-pressure gas once every year. We intend to continue providing daily facility management and safety education to workers handling high-pressure gas, to prevent both violations and accidents.



Cultivating safety culture at Kashima Plant

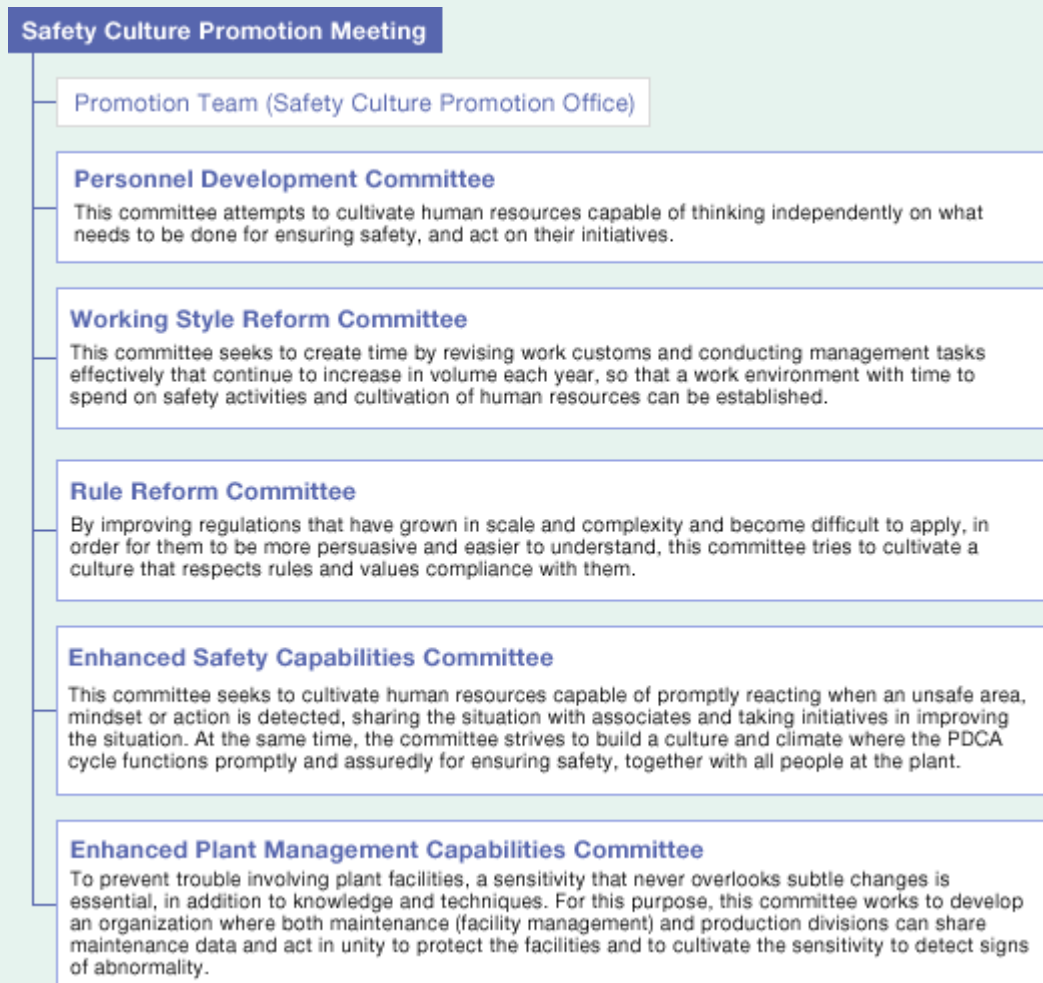
At Mitsubishi Chemical's Kashima Plant, thorough recurrence prevention measures against similar disasters are being implemented as a part of the lessons learned from a fire that broke out in December 2007. Initiatives have also begun in an ongoing basis for cultivating and disseminating throughout the plant a culture and climate that emphasizes safety, aiming to prevent all types of disasters and accidents.

Starting with identification and analysis of trouble and issues inherent in organizations and staff at the Kashima plant, we decided on what our ideal state would be. Five priority measures were formulated for realizing the ideal, for which efforts are being vigorously taken.

Implementation structure

Progress in activities for promoting safety culture is being confirmed at the Safety Culture Promotion Meeting (held every month) chaired by the plant manager. The Safety Culture Promotion Office supports various activities and strives to disseminate safety culture throughout the plant. The diagram below shows the organization for safety culture promotion.

● Five committees and the measures they implement



Specific activities and outcomes of each Committee for promoting safety culture

1. Personnel Development Committee

- (1) Promoted greater independence for deputy managers by raising awareness while delegating authority
- (2) Formulated development-oriented rotation plans, clarified the persons responsible and schedules, and promoted human resource development
- (3) Promoted awareness and behavioral reforms by defining manager and GM management actions and having managers conduct self evaluations of their own actions

2. Working Style Reform Committee

- (1) Eliminated or improved known factors behind busy workloads
- (2) Accumulated numerous reform cycles
- (3) Made reforms to the corporate culture with a focus on streamlining and rationalization of entire business sites without regard to existing practices

3. Rules Reform Committee

- (1) Sought to improve the persuasiveness and affinity of rules by making improvements to the processes eventually established while incorporating feedback from the people to whom the rules will apply
- (2) Making reviewed and improved rules that have grown in scale and complexity easier to use
Rule Improvement Status: 67 cases of correcting overly complex rules / 88 cases of improving redundant or nonconforming rules (results at the end of fiscal 2011)

4. Enhanced Safety Capabilities Committee

- (1) Cultivated human resources with a high sensitivity to safety by running a reliable and ongoing improvement cycle of sensing, conveying, changing and confirming through the submission of near-misses
- (2) Sought to improve the level of discovery and improvement abilities by making potential issues discovered and the corresponding countermeasures shared data and learning from case examples
Number of near-misses submitted: 200-300 cases / month (activity levels maintained from fiscal 2009 to fiscal 2011)
Number of awards to Section Managers: 10-20 per month (activity levels maintained from fiscal 2009 to fiscal 2011)

5. Enhanced Plant Management Capabilities Committee

- (1) Cultivated sensitivity on the part of operators so that they never overlook signs of abnormality by implementing education regarding plant management and having both operational management and plant management conduct joint patrols, among other activities as an opportunity for awareness
- (2) Shared information on facility maintenance, prevented trouble through Facility Management Review discussion groups to determine operational and facility management policies, and sought to foster the sense of organizational unity and boost awareness of facility management
Number of signs of abnormalities detected: 150-600 cases / month (activity level maintained from fiscal 2009 to fiscal 2011)
Number of awards to Section Managers: 5-20 / month (activity level maintained from fiscal 2009 to fiscal 2011)

▶ [To Mitsubishi Chemical Kashima Plant website \(Japanese only\)](#) 

Examination by Ibaraki Prefecture government

Since the Accident Analysis Committee completed its final investigation in April 2009, the Ibaraki prefectural government has conducted periodical accident monitoring to cultivate a culture of safety. In their evaluation of the third monitoring session conducted in 2011, the officers noted that "improvements to the safety record and the cultivation of a safety culture are proceeding steadily." Mitsubishi Chemical will continue its commitment to cultivate a safety culture.



Monitoring activities underway

Policy

Initiatives to Raise Safety Awareness

MOS Indexes C-3: Recognition of corporate trust > [Find out more](#)

In fiscal 2011, the Mitsubishi Chemical Group promoted safety activities under a policy of safety-first awareness as set forth in the **APTSIS 15** mid-term management plan. For instance, in terms of one target of boosting awareness among professionals on the frontlines of production sites, our activities included raising awareness of acting responsibly, conducting basic operational training, providing education on legal and compliance issues and conducting training on past cases with a focus on people's behavior.

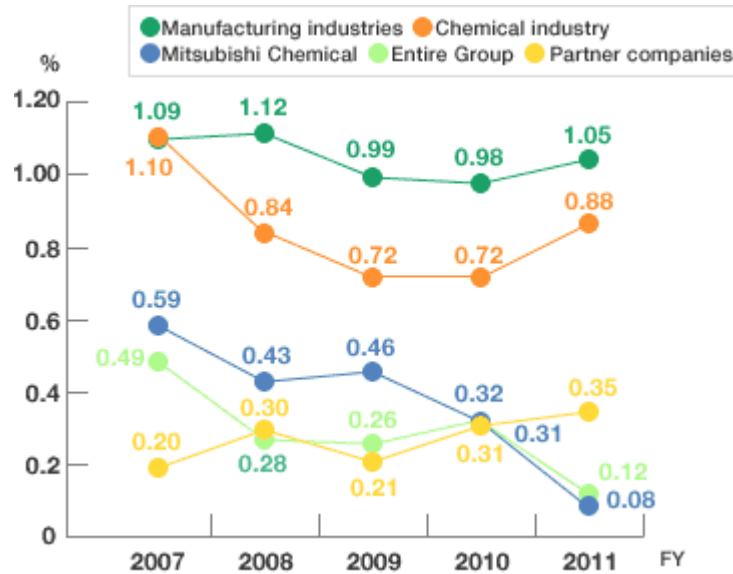
As a result, in fiscal 2011 the MCC Group achieved its target of a maximum of 0.2 loss time injury frequency*1. The figure was 0.08 for Mitsubishi Chemical alone and 0.12 for the entire Group.

Of the loss time injury accidents occurring in the past five years, 53% were so-called behavioral accidents such as being caught and entangled, falls and drops, and 24% were chemical and thermal injuries distinctive in chemical plants. These two categories account for about 80% of all loss time injury accidents. These results indicate a lack of risk prediction in basic operations and behavior, as well as lack of communication when confirming instructions and conveying messages. The situation is believed to have resulted from a decline in practical abilities at worksites caused by the decreasing number of experienced workers.

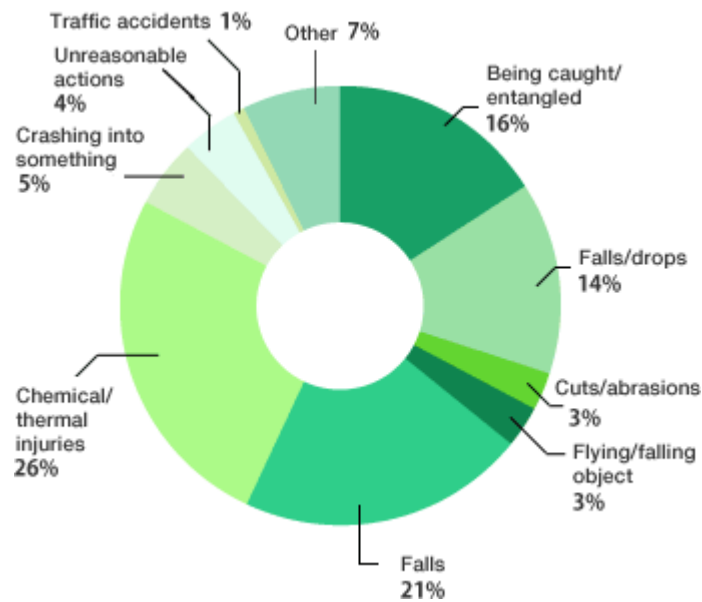
Given this situation, we have improved sensory training seminars (attended in fiscal 2011 by about 1,900 Mitsubishi Chemical employees and about 2,000 Group company employees, [1,500 domestic staff and 500 overseas staff]) and near-miss activities, to enable workers to assuredly predict risks. Verification and sharing of accident information are also being promoted within the Group to use past examples effectively. Minor labor accident examples are being shared within the Group along with important near-miss examples, so as to obtain accident information before the situation reaches a serious state, and to eradicate accidents at their initial stages.

*1 Loss time injury frequency: The number of casualties caused by loss time injury accidents that took place per 1 million total working hours

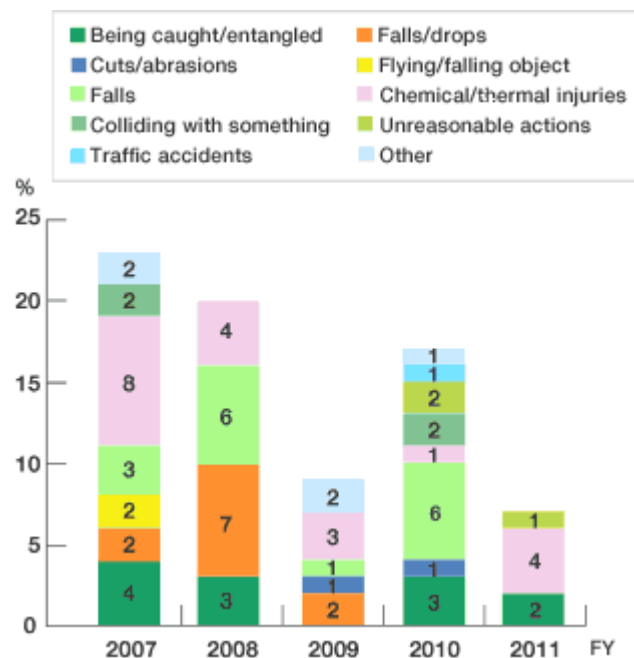
● Loss time injury frequency



● Categories of loss time injury accidents (total for FY2007-2011; Mitsubishi Chemical Group)



● Categories of loss time injury accidents (Mitsubishi Chemical Group)



Promoting the development of a safe, hygienic and healthy workplace

Wenya Cheng
Administrative Section Chief
APCO (Suzhou) Co., Ltd.



Based on the national safety policy of "Safety First, Prevention Foremost and Comprehensive Control," APCO (Suzhou) Co., Ltd. has pursued safety activities with the involvement of all staff in line with the company's safety policy. Looking back at past safety activities, we have conducted safety education 12 times, undertake 12 safety patrols, detected 292 near-misses and completed improvements regarding 287 of them. Moving forward, we will continue to deepen exchanges with Group companies, develop a more rational safety education system and strive to develop a safe, hygienic and healthy workplace.

Six Points of Safety Activities at APCO (Suzhou) Co., Ltd.

1. Conduct monthly KY(Hazard Prediction) analyses, identify near-misses and implement improvements.
2. Receive on-site guidance from professionals of the Safety Supervision Bureau, a local government agency and the Safe Production Association, collect information on improvement cases from other companies, roll-out measures across the organization and conduct internal education.
3. Ensure the thorough and ongoing implementation of monthly safety education.
4. Conduct ongoing patrols on a monthly basis and improve problem areas.
5. Create a bulletin board for safety management, share information and boost safety awareness on the part of all employees.
6. Cooperate with the labor union, engage in safe production and skill competitions, and raise the safety knowledge levels of all employees.

Policy

Management of Chemicals in the Work Environment

Mitsubishi Chemical handles numerous chemical substances, including nanomaterials*1. To protect the health of employees who handle these substances in their duties, human health impact assessments are conducted in the workplace environment in each stage, from basic research to manufacturing, implementing necessary precautions.

Concerning conventionally handled chemical substances, we also carry out not only statutory workplace environment monitoring*2, but also voluntary monitoring and exposure (amount of chemical substances with which an individual comes into contact) measurements to suit the conditions in which chemical substances are handled, as a part of ongoing efforts to manage the workplace environment.

*1 Nanomaterials: materials in sizes of the order of one billionth of a meter

*2 Workplace environment monitoring: conducted for clarifying the amount of harmful factors existing in the workplace environment, and to what extent people working in the environment are exposed to them

Activities and Achievements

Activities to Foster Emotional and Physical Health

Mitsubishi Chemical actively pursues activities for emotional and physical health.

We implement measures to foster emotional health on a tiered basis that includes self-care (taking measures to prevent or reduce one's own stress) and care provided by line managers (who are given training on how to deal with subordinates suffering from emotional disorders). The necessary training is given at each plant, while promoting a system where employees can feel free to consult with experts. For instance, at the head office, two commissioned physicians are available for emotional health consultations both during and outside working hours twice a week.

For physical health, we offer specific health guidance*3 in response to a request by Mitsubishi Chemical Health Insurance Union, as a follow-up to the standard health examination that businesses are mandated to conduct. We also actively promote activities such as walking campaigns and anti-smoking campaigns.

The details of counseling and results of health examination are managed carefully, taking the privacy of each employee into consideration.

*3 Specific health guidance: examination and health guidance for preventing lifestyle-oriented diseases, with a focus on preventing and eliminating metabolic syndrome among the insured and their dependents aged 40 to below 75.

Holding of Health Seminars for Working Women

Mitsubishi Chemical Group Science and Technology Research Center, Inc.

Administration Department, Health Development Center

Many of the Mitsubishi Chemical Group's research divisions are gathered together at the Yokohama Research Center, which is based in Yokohama, Kanagawa Prefecture. Our Health Development Center is involved in health support services for employees. One of the characteristics of the Yokohama Research Center is the high proportion of female employees (around 35%) compared with in plant districts (around 13%). To date, support activities aimed at female employees have comprised onsite cancer screenings and the provision of information over the intranet. This time we undertook a new initiative to invite a specialist physician and hold a "Health Seminar for Working Women." On the day of the seminar, explanations were given from a specialist standpoint on topics such as female-specific diseases and ways to prevent them, as well as the latest treatment methods. A question and answer session was also conducted. Despite the seminar being held after working hours, 35 female employees attended. Through questionnaires we obtained feedback such as "it was useful to hear an expert talk" and "while we can only speak with physicians for a limited time during outpatient care, we got to ask a lot of questions this time." Moving forward, we hope to take an active role in the development of a friendly working environment for women from the perspective of health support.



Responsible Care Activities

Environmental Management

Policy

Initiatives to reduce the environmental load in all processes of business activities

MOS Indexes S-1: Contribution to reduce the environmental impact through products and services
C-3: Recognition of corporate trust > [Find out more](#)

The Mitsubishi Chemical group is proactive in seeking to protect the global environment. We strive to reduce the environmental load in all processes in our business activities by pursuing resource and energy conservation, reducing waste, and encouraging reuse and recycling, as well as conserving the environment and developing technologies for these purposes. In addition to preventing contamination associated with our business activities for the air, water, soil, and other natural features, we seek solutions to environmental issues on a global scale. Our efforts include measures to deal with global warming and resource depletion, preservation of biodiversity and development of environmentally friendly products and services. As a result, we recorded zero accident for 2011.

Responsible Care Activities Preventing Air, Water and Soil Pollution

Activities and Achievements

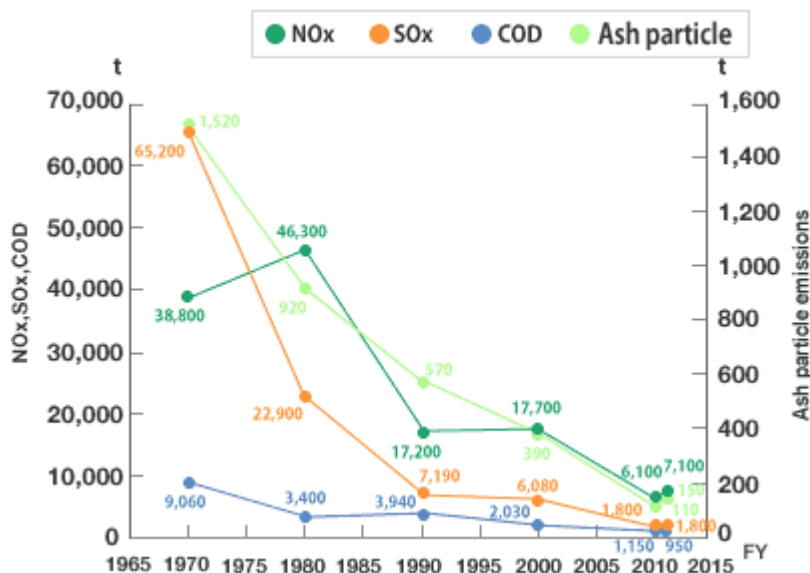
Initiatives for Reducing Environmental Impact on Air and Water Quality

MOS Indexes S-1: Contribution to reduce the environmental impact through products and services
[> Find out more](#)

At the Mitsubishi Chemical Group, we handle a wide range of chemical substances, and consume large quantities of fossil fuels that are sources of nitrogen oxide (NOx), sulfur oxide (SOx), and other pollutants. We have therefore taken action to address the environmental issues. By installing emission gas and drainage treatment facilities, we have slashed the environmental load on the atmosphere and public water bodies.

During the fiscal 2011, we continued to adopt a number of initiatives, including a switch to cleaner fuels and incineration treatment of drains with a high environmental load. As a result, we reduced the emissions of chemical oxygen demand (COD) of drains by 230 tons compared to the fiscal 2010 level. On the other hand, emissions of ash particles and NOx from exhaust gases increased as we restarted operation at power generating facilities at the Joetsu Center of Mitsubishi Chemical High-Technica Corporation to overcome the power shortage attributed to the Great East Japan Earthquake. However, we sought to minimize the emissions and kept the level of increase extremely low.

● Reducing Environmental Impact on Air and Water Quality



Activities and Achievements

Purifying and monitoring soil and groundwater

All Mitsubishi Chemical production bases conduct voluntary surveys on soil and groundwater pollution. Production facilities where the surveys have revealed pollution provide notification pursuant to local ordinances or voluntarily, and continue purification and monitoring measures as instructed by the prefectural or city government. To date, seven of our plants have reported the survey results to local governments: in Kashima, Sakaide Yokkaichi, Mizushima, Naoetsu, Kurosaki and Tsukuba. Each of these plants continues to implement appropriate measures as instructed by the local government. No new soil pollution was confirmed in fiscal 2011.

Preventing Global Warming

Activities and Achievements

Energy conservation initiatives at different locations

MOS Indexes S-1: Contribution to reduce the environmental impact through products and services
S-2: Practice energy saving & reduction of depletion resources > [Find out more](#)

Mitsubishi Chemical will proceed with activities aimed at promoting energy conservation and reducing greenhouse gases based on Mitsubishi Chemical Holding`s target of "reducing greenhouse gas emissions more than 17% compared with fiscal 2005 levels by fiscal 2015" in its APTSIS 15 mid-term management plan. On the energy conservation front, Mitsubishi Chemical is also involved in ongoing efforts with respect to the non-binding targets set forth in the Act on the Rational Use of Energy (Energy-saving Act) of "reducing unit energy consumption by an average of 1% or more annually, seen from a medium- to long-term perspective."

Towards meeting these targets, the petrochemical plant energy conservation project begun in fiscal 2008 entered its fourth year in fiscal 2011. Project activities, including the identification and technical consideration of energy-saving initiatives to implement and the formulation of implementation plans are currently underway at four plants, Mizushima, Kashima, Kurosaki and Yokkaichi. In fiscal 2011, improved heat collection through plant-wide steam balance optimization and process reforms was applied to large petrochemical plants in Mizushima, Kashima and Yokkaichi, resulting reduced energy usage equivalent to around 40,000 tons of CO₂.

Activities and Achievements

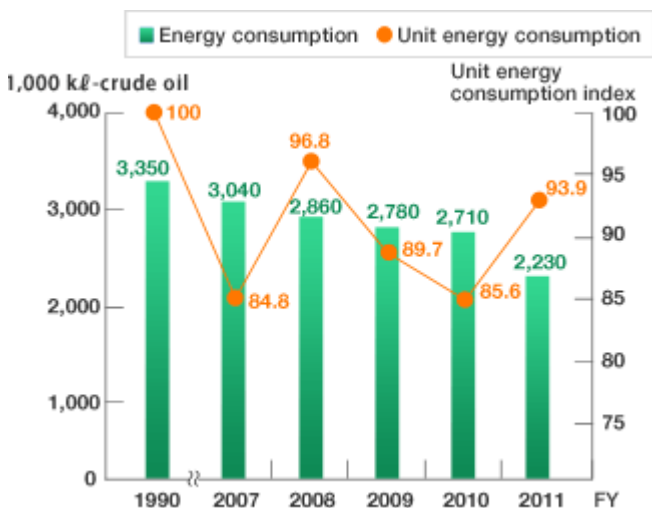
Reduction in energy consumption and greenhouse gas emissions in fiscal 2011

MOS Indexes S-1: Contribution to reduce the environmental impact through products and services
S-2: Practice energy saving & reduction of depletion resources > [Find out more](#)

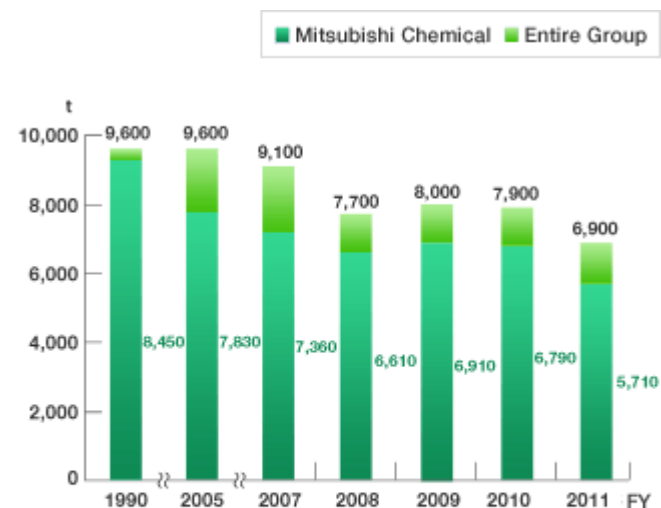
In fiscal 2011, energy consumption and greenhouse gas emission fell far below fiscal 2010 levels on account of the long-term stoppage of the Kashima Plant due to the Great East Japan Earthquake and decreased production due to economic slowdown. In terms of unit energy consumption, the increase associated with the worsening of operating conditions outweighed the reduction effects of energy-saving efforts. The unit energy consumption index stood at 93.9 compared with fiscal 1990, 10% worse than the previous year. However, due to factors such as continued energy-saving activities, although the drop in production was greater than during the 2008 recession, the figure did not worsen to the unit energy consumption index value of 96.8 recorded in that year. Further, greenhouse gas emissions marked a 28% drop compared with fiscal 2005.

The Mitsubishi Chemical Group will continue striving to reduce greenhouse gas emissions by the entire Group and develop and manufacture products that help conserve energy, thereby contributing to society's overall reduction of total greenhouse gas emissions.

● Energy consumption (Mitsubishi Chemical)



● Greenhouse gas emissions



*For greenhouse gas emissions, as the result of a detailed examination on the inclusion of heat-trapped gases not subject to reporting under the law in addition to reporting values stipulated in the Act on promotion of Global Warming Countermeasures, figures not included at Group companies were found, and in the FY2012 version of the graph, retroactive corrections have been made to add these figures to past data.

Activities and Achievements

Measures to Improve Unit Energy Consumption in Transportation

- MOS Indexes** S-1: Contribution to reduce the environmental impact through products and services
- S-2: Practice energy saving & reduction of depletion resources > [Find out more](#)

Mitsubishi Chemical submits actual energy consumption amounts, energy consumption reduction plans and other reports to the Ministry of Economy, Trade and Industry each year, as a specified consigner*1 stipulated by the amended Act on the Rational Use of Energy that went into force in April 2006. For achieving the Act's target of reducing unit energy consumption by an average of 1% or more annually, seen from a medium- to long-term perspective, Mitsubishi Chemical has sought effective energy usage together with transport contractor Mitsubishi Chemical Logistics Corporation. Attempts are also being made to reduce CO₂ emissions.

Mitsubishi Chemical has boosted the efficiency of coastal shipping vessels engaged in domestic sea transport and vehicles used for land transport by increasing lots (shipping lot volumes). Also, "friend" fins*2 are attached to coastal shipping vessels, paint coatings which improve fuel efficiency are applied, and about 300 transport vehicles are equipped with on-vehicle terminals that support eco-friendly driving, in addition to eco-friendly tires.

In addition to these initiatives, in fiscal 2011 Mitsubishi Chemical also initiated a switch to export ports located closer to its production plants. However, due to business restructuring and the Great East Japan Earthquake which struck on March 11, 2011, fuel-efficient rail transportation volume decreased. In addition, there was a fluctuation in the ratio of means of transportation available. As a result, unit energy consumption decreased by just 0.2% year-on-year, falling short of the target of "reducing unit energy consumption by 1% or more annually." CO₂ emissions decreased 14% year-on-year.

In fiscal 2012, Mitsubishi Chemical will continue the initiatives it has pursued to date and endeavor to reduce fuel consumption and CO₂ emissions.

*1 Specified consigner: Business entity that transports 30 million tons-km of cargo in its possession each year

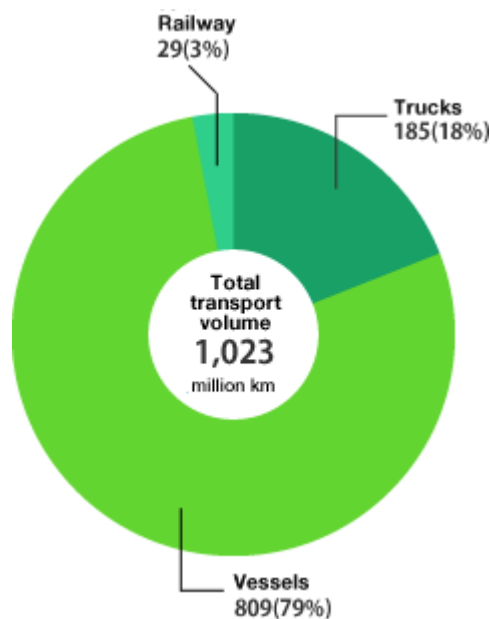
*2 "Friend" fin: A tactic for obtaining large thrust force by attaching several fins to the stern in front of the propellers, thereby regulating the water flow to the propeller. The propeller's torque is suppressed by the water flow-regulating function, enabling navigation with fewer rotations per minute. This method helps conserve energy and reduce CO₂ emissions

● Actual reduction in unit energy consumption (Mitsubishi Chemical)

FY		2007	2008	2009	2010	2011
Energy consumption	GJ	1,130,000	908,000	953,000	831,000	714,000
Fuel consumption (converted to crude oil)	Kℓ	29,200	23,400	24,600	21,400	18,400
Transport weight	Million tons	4.6	3.9	3.9	3.7	3.7
Transport volume	Million tons-km	1,490	1,200	1,240	1,190	1,020
CO ₂ emissions	t-CO ₂	77,800	62,500	65,800	57,500	49,300
Unit energy consumption	Kℓ/million tons-km	19.63	19.59	19.85 (17.92)	18.04	18.00

Figures enclosed in parentheses for fiscal 2009 and figures from fiscal 2010 onwards are specific consumption units excluding the transportation of unladen vessels.

● Breakdown of transport volumes by transport mode in fiscal 2011 (Mitsubishi Chemical)



Achievements through a power consumption reduction project at a power-generating plant

Chihiro Utsunomiya
Technical Group, Manufacturing Department 1, Yokkaichi Plant
Mitsubishi Chemical Corporation



The role of the power-generating plant is to supply utilities such as electricity or steam to complex users reliably and at low cost. On the other hand, it is also the plant with the highest levels of CO₂ emissions, and due to recent social conditions, reducing environmental load and CO₂ emissions have become significant challenges.

Against this backdrop, I was in charge of a project to reduce power consumption at the power-generating plant. While the main purpose of the plant is to generate electric power, it also consumes power for itself. I believed I would be able to reduce power consumption by focusing on the equipment consuming the greatest amount of power and employing inverter technology*3. This was my first project, and while I ran into various obstacles on the way, I overcame them one at a time. When I confirmed the energy-saving effects, I was filled with an overwhelming sense of accomplishment. This project was a great opportunity to give deep consideration to energy conservation and reducing CO₂ emissions, and I realized that there were many ways to save energy hiding in plain sight in my daily life as well. Looking ahead, I hope to continue finding new ways to save energy and put them into practice.

*3 Inverter technology: A technology that adjusts fan air volume and reduces motor power consumption by controlling a motor's rotational speed.

Responsible Care Activities

Reducing Overall Chemical Substance Discharge

Activities and Achievements

Initiatives for reducing overall PRTR*1 discharge

MOS Indexes S-1: Contribution to reduce the environmental impact through products and services
[> Find out more](#)

The Mitsubishi Chemical Group annually announces the discharged amounts and transferred amounts of the 462 substances regulated by the Specific Chemical Substances Act*2. The discharge in fiscal 2011 was 380 tons, down 100 tons from fiscal 2010.

At Mitsubishi Chemical Corporation, we perform studies and announce the substances specified by the Japan Chemical Industry Association (JCIA), in addition to those regulated by the Specific Chemical Substances Act. Because of the effect of our measures to reduce benzene discharge*3, which we have promoted in a three-year plan, and reviews of our processing processes, we have reduced the discharged volume of substances regulated by JCIA, too. Overall discharge was 940 tons, down 50 tons from fiscal 2010, due in part to the lower rate of operation and halting of facilities, which resulted from the business restructuring. We have been reducing overall discharge steadily since fiscal 2005. We will continue to make efforts to reduce the discharge of substances, mainly VOC discharge*4.

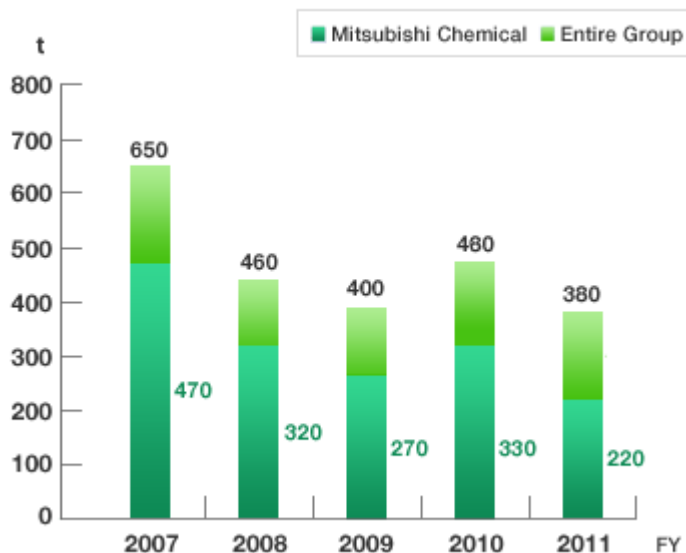
*1 Pollution Release and Transfer Register (PRTR): A notification system for the released and transferred amount of chemical substances. This is a system for clarifying, aggregating, and publicizing the data on the quantity of hazardous chemical substances released into the environment from each source, or the quantity taken outside facilities as a part of waste.

*2 Specific Chemical Substances Act: The official title is the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof. The Act was introduced in 1999, with the aim of improving voluntary management of chemical substances by businesses by clarifying the discharged amount of specific chemical substances into the environment and having the businesses provide information, thereby preventing obstacles to environmental conservation.

*3 Measures to reduce benzene discharge: Cleaning using simple removal facilities was conducted in fiscal 2008, absorption facilities were installed in fiscal 2009 as a part of the first-phase work, and an emission gas incineration kiln was installed in fiscal 2010.

*4 Volatile organic compound (VOC): Typical substances include toluene and xylene. These compounds became subject to regulation by the amended Air Pollution Control Act of 2006, as source substances of photochemical oxidants (photochemical smog).

● Discharge of PRTR-regulated substances



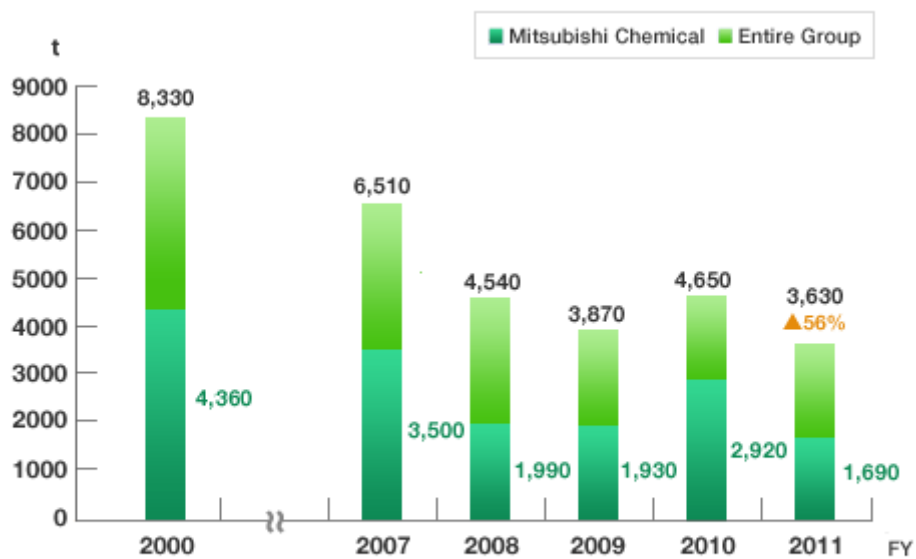
Initiatives for reducing VOC discharge

MOS Indexes S-1: Contribution to reduce the environmental impact through products and services

[> Find out more](#)

The Mitsubishi Chemical Group has been active in pursuing a range of measures, targeting a 50% reduction in VOC discharge by fiscal 2010, compared with fiscal 2000 levels. In fiscal 2011, VOC discharge was reduced 56% from fiscal 2000 levels because of the absence of the effect of large-scale, regular repair work, as well as the effects of our measures to reduce benzene discharge, which we had heretofore been promoting, and the halting of facilities that resulted from the business restructuring. We will continue to maintain a reduction ratio of at least 50% compared with fiscal 2000 levels.

- Volatile organic compound (VOC) discharge



*The negative figure for fiscal 2010 indicates a reduction ratio from fiscal 2000.

*The discharge increased in fiscal 2010 because the large-scale, regular repair work resulted in halting the supply of products to users and halting facilities that remove VOC, which caused part of the VOC stored in tanks to be released into the atmosphere.

Three-year plan for reducing benzene emissions and results of the plan

At Sakaide Plant, we took the following four measures to reduce the volume of benzene emitted into the atmosphere from the coke-making plant by fiscal 2007, targeting "annual emissions at 10 tons or less":

- 1) Renewals of covers and frames of coke ovens
- 2) Improvement of the incineration method applied when coals are charged
- 3) Installation of benzene recovery devices
- 4) Sealing of facilities

However, the actual volume of benzene emissions in fiscal 2007 led us to judge that achieving the target would be difficult unless we implement further emissions reduction measures. As a result, we planned and implemented the measures 5) to 7) below during the three years from fiscal 2008.

- 5) Introduction of water spraying waste gas removal equipment to the exhaust line (38 tons/reduction/year)
- 6) Introduction of oil scrubbers to subsequent processes (23 tons/reduction/year)
- 7) Installation of waste gas into an incinerator at the end

As a result of these measures, the volume of benzene released into the atmosphere was 10 tons in fiscal 2011, which means we achieved the target.

The coke-making plant is extremely large, and the accumulation of the patient efforts of the people

involved was essential for reducing benzene discharge. We therefore devote a great deal of time and labor to this task. We identified emissions sources through environmental analyses of the surrounding area, as well as visual inspections of the fields and confirmation of drawings. We took action on the emissions sources by reviewing the processes and introducing appropriate facilities, for example. We have also applied Safety Assessment (SA) to our safety measures, such as preventing flashbacks or the formation of detonating gases, thereby doing our best to ensure safety



Waste gas combustion system



Waste Reduction and Recycling

Activities and Achievements

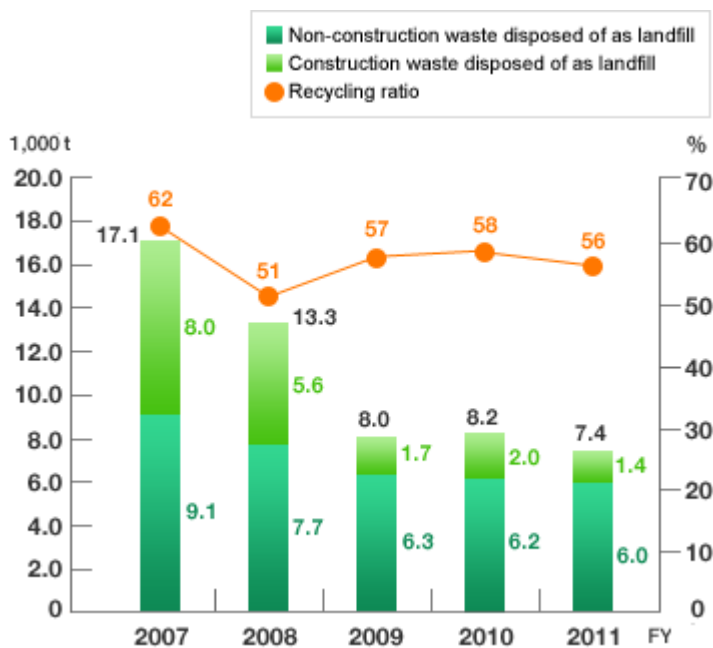
Initiatives for attaining zero emissions

To help build a recycling-based society, the Mitsubishi Chemical Group has stepped up recycling of assorted industrial waste with a target of zero emissions*. The landfill ratio was 2.5% in fiscal 2011, which means we could not attain zero emissions.

We will continue to aim for zero emissions by increasing the recycling ratio through sorted collection of construction waste—something we will undertake thoroughly—and by continuing to make efforts to recycle sludge.

* Zero emissions: The Mitsubishi Chemical Group defines zero emissions as keeping the volume of industrial waste ultimately disposed of as landfill to a maximum of 1% of the total industrial waste generated (landfill disposal ratio of 1% or less)

● Volume of industrial waste ultimately disposed of as landfill and recycling ratio (Mitsubishi Chemical Group)



Zero emissions achieved at Mizushima Plant

Toshiharu Doumae
Group Manager, Environment Group, Environment and Safety
Department, Mizushima Plant
Mitsubishi Chemical Corporation

To contribute to the achievement of zero emissions by the Mitsubishi Chemical Group, Mizushima Plant has been implementing measures by targeting an "annual volume of industrial waste disposed of as landfill at 120 tons or less."

The key measures are 1) recycling sludge into subgrade materials, 2) introducing magnetic ore separators for eliminating iron, which will be an obstacle to the promotion of recycling of combustion ash, and 3) improving the recycling ratio through the sorted collection of construction waste.

Above all, with regard to construction waste in 3), we studied recycling tests, acceptance standards, and the necessary measures continuously, together with intermediate treatment companies and recycling companies. As a result, we judged that heat insulating materials and slate boards generated from the Plant can be recycled. In fiscal 2011, we reduced the volume of industrial waste ultimately disposed of as landfill to 100 tons (landfill ratio: 0.7%) by more thoroughly achieving sorted collection and transforming wastes into most effective forms for disposal.



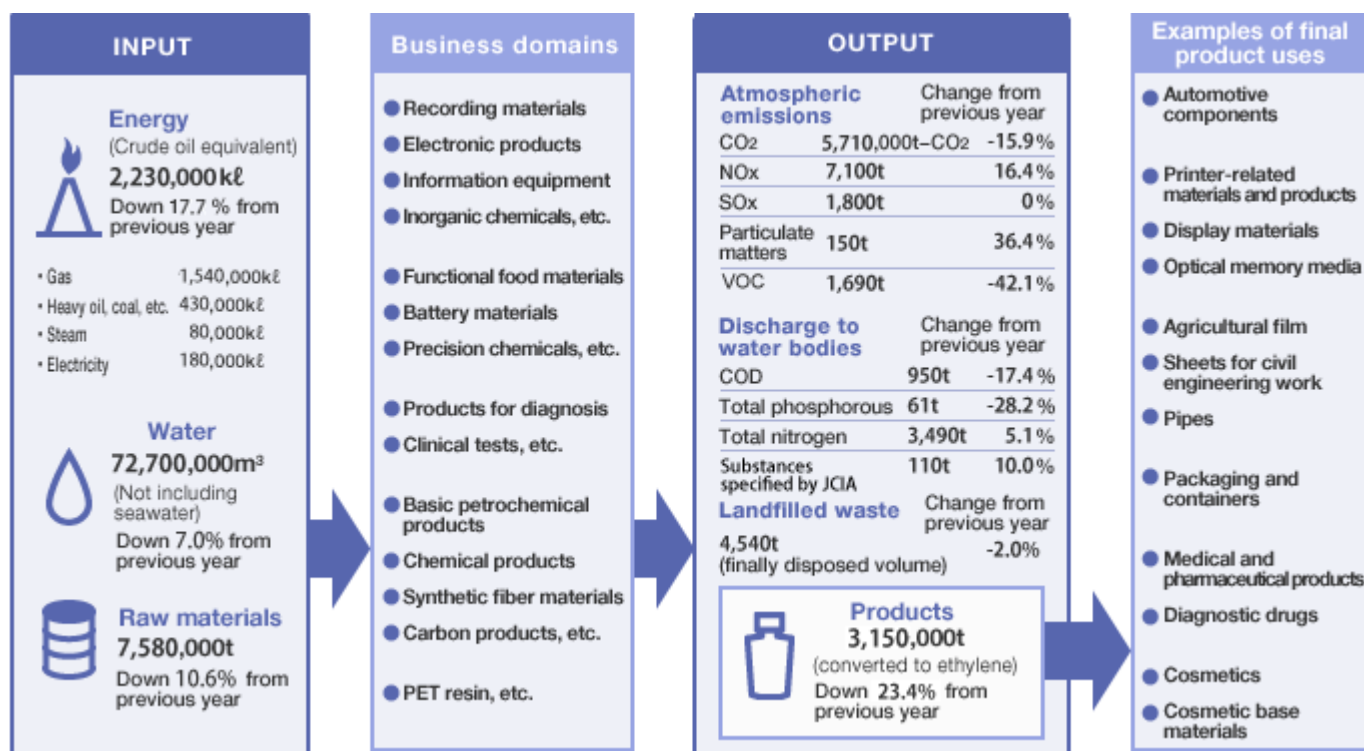
Sorted collection of construction waste

Responsible Care Activities Material Flow

Activities and Achievements

Continuously identifying and measuring material flows

To effectively reduce the environmental load, the Mitsubishi Chemical Group strives to identify material flows (the quantity of resource input and the environmental load generated from that). Below is a summary of the input (the amount of energy, water and raw materials put in) and output (production amounts of products, the amount of discharged waste and other emissions), by business domain and final product use.



Activities and Achievements

Investments and expenses for the environment, accident prevention and safety

During fiscal 2011, we invested a total of 2.8 billion yen and outlaid 28 billion yen on measures against pollution due to discharge water, reducing emissions of volatile organic compounds (VOCs), and other atmospheric pollutants, as well as reducing waste, conserving resources and energy and taking other steps to protect the global environment and promote greening at plants.

Major investments in environmental protection were as follows.

- 1.2 billion yen for countermeasures against water contamination, such as improvement and unification of discharge ports and strengthening of water resource management
- 700 million yen for reducing emission of atmospheric pollutants, such as adding benzene absorption facilities, installing floating roofs on storage tanks and adding and improving dust collecting devices
- 600 million yen for energy conservation measures, such as replacing freezers
- 100 million yen for renewing buried pipes which were deteriorated (installing new pipes on the ground)
- 200 million yen for other measures to conserve the global environment and promote greening at plants

Major expenses for conserving the environment were as follows.

- 15.9 billion yen for maintenance and management of facilities for treating discharge water, exhaust gas, and waste
- 3.8 billion yen for research and development on production efficiency enhancement, which will lead to environmental conservation
- 2.7 billion yen for repairs related to resource and energy conservation
- 2.7 billion yen as expenses concerning waste disposal
- 600 million yen for measures for reducing CO₂ emissions
- 2.3 billion yen for other costs related to environmental conservation, management activities, and management of green space in plants

We plan to continue making investments during fiscal 2012 for reducing discharge risk affecting public water areas, reducing smoke, VOCs and other emissions to the atmosphere, and intensifying monitoring and management.

Major investments concerning accident prevention and safety include 600 million yen for the installation of a diffusion simulator to be used in the event of a leak as well as the improvement of security measures and earthquake countermeasures at business establishments. Total expenses were 9.0 billion yen, which was allocated to purchasing nitrogen for accident prevention, statutory inspection for accident prevention, fire extinguishing facilities, etc.

● Investments and expenses for the environment, accident prevention and safety

million yen

Environmental conservation costs		2010		2011	
Category		Investment amount	Expenses	Investment amount	Expenses
Environmental conservation costs for suppressing environmental load generated in business areas due to production and service activities (business area costs)		4,924	20,507	2,800	21,894
Breakdown	1. Pollution prevention costs	1,192	14,186	2,570	15,772
	2. Global environmental conservation costs	272	911	0	736
	3. Resource recycling costs	2,831	5,410	230	5,386
Environmental conservation costs in management activities (environmental management activities costs)		0	1,144	0	1,164
Environmental conservation costs in R&D activities (R&D costs)		0	3,712	0	3,774
Environmental conservation costs in social contribution activities (social contribution activities costs)		267	428	38	439
Costs for dealing with environmental damage (environmental damage costs)		9	31	9	7
Other environmental conservation costs (other costs)		0	534	0	518
Subtotal		4,571	26,356	2,847	27,796

Accident prevention and safety costs		2010		2011	
Category		Investment amount	Expenses	Investment amount	Expenses
Legal measure costs for accident prevention and safety (legal accident prevention measure costs)		2	3,331	14	3,526
Voluntary risk management costs for accident prevention and safety (voluntary accident prevention measure costs)		113	5,190	575	4,693
Accident prevention and safety costs in management activities (accident prevention management activities costs)		0	768	0	746
Subtotal		115	9,289	589	8,965

Total		4,686	35,645	3,436	36,761
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Activities and Achievements

Began assessing impacts on ecosystems as a group

MOS Indexes S-1: Contribution to reduce the environmental impact through products and services
[> Find out more](#)

In recent years, recognition of the importance of biodiversity preservation at different levels, from ecological systems in oceans, forests, and wetlands to species of fauna and flora, as well as microbes, in addition to genetic diversity, has become widespread, motivated by the need to protect and nurture the diverse gifts that life forms provide.

The Mitsubishi Chemical Group has engaged in environmental conservation activities as a part of its Responsible Care (RC) activities. In this capacity, it conducts ecological surveys of the plant and animal life at and around its business sites and works to protect this life. In addition, since fiscal 2009, the Group has also upheld the Nippon Keidanren Declaration on Biodiversity*1 as a member of the Mitsubishi Chemical Holdings Group (MCHC Group). We are striving to reduce the impact on biodiversity from our business activities in an ongoing and self-initiated manner.

At the MCHC Group, specific action with regard to protecting biodiversity begins with ascertaining the impact on our business activities on the ecosystem. Referencing the Corporate Ecosystem Services Review (ESR)*4 developed jointly by the World Business Council for Sustainable Development (WBCSD)*2 and the World Research Institute (WRI)*3 and the Guidelines for Private Sector Engagement in Biodiversity prepared by Japan's Ministry of the Environment, from fiscal 2010 we began considering a model for confirming the circumstances to respond to biodiversity, including an examination of assessment methods, at the Mitsubishi Chemical Yokkaichi Plant.

In the model study, we confirmed and evaluated issues relating to conservation and the impact on biodiversity exemplified below, from the perspective of responding to biodiversity. Based on the results, we judged that we have responded to biodiversity through the RC and other activities we have pursued.

*Examples of activities related to biodiversity conservation

--Cleaning around plants and implementing the cleanup of Suzuka River

*Examples of impact assessment on biodiversity

--Status of industrial water intake

--Emissions of chemical substances *5

We intend to continue taking action that considers biodiversity, through biodiversity conservation and the reduction of impacts.

*1 Nippon Keidanren Declaration on Biodiversity: Announced by Nippon Keidanren in March 2009, the Declaration comprises seven main policies including harmony between the natural circulation and business activities and promotion of a resource-recycling style of business administration.

*2 World Business Council for Sustainable Development (WBCSD): Established at the time of the United Nations Conference on Environment and Development held in 1992, this is a council of private enterprises organized in its current form in 1995. With the participation of about 200 enterprises from over 30 countries, the Council has been active in 20 areas of industry, aiming at environmental preservation, economic development and sustainable development of fair societies.

*3 World Research Institute (WRI): An environmental think tank established in 1982 and headquartered in Washington, D.C.

*4 Corporate Ecosystem Services Review (ESR): Guidelines for supporting strategy formulation in management of business risks and opportunities arising from companies' dependency and impact on ecosystems. Benefits from nature are defined as ecosystem services, and trends in global ecosystem services in the past 50 years have been categorized into supply (food, fresh water, etc.), adjustment (air quality, climate, etc.), cultural (recreation and eco-tourism), and platform (water cycle, etc.) services. Strategy formulation is made possible by checking each item pursuant to the guidelines.

*5 Conducted with references to *6, LIME and *7, GPS Risk Assessment Guidance, etc.

*6 GPS Risk Assessment Guidance: Guidelines for chemical management and risk assessment in the Global Product Strategy (GPS) of the International Council of Chemical Associations (ICCA), an international initiative.

Policy

For further stabilization of quality

MOS Indexes C-3: Recognition of corporate trust > [Find out more](#)

As a comprehensive chemical manufacturer supplying a wide array of products to customers in a broad range of industries, Mitsubishi Chemical feels it is its duty to strive to prevent quality and product liability (PL) issues, while at the same time increasing customer satisfaction by offering safe and secure products.

To perform this duty, the company has worked to establish in-house organizations for complying with laws and regulations and fulfilling obligations and promises under contracts with customers. In fiscal 2011, we clarified the structure of the quality assurance division established from fiscal 2010 and promoted improvements to our internal verification system (review of in-house regulations and audit) for quality inspection data to strengthen our ability to satisfy customer trust. These measures were implemented as a part of efforts to put increased compliance on track; a top-priority business management issue.

We have also made progress in reforming the quality inspection data management system for enhancing the quality inspection data security. In this way we are working to improve the reliability of quality-related data while stabilizing product quality.

Activities and Achievements

Reforming the Green Information Management System

As exemplified by Europe's ELV Directive*1, RoHS Directive*2 and REACH regulation*3, demand has risen globally on appropriate management and information disclosure regarding chemical substances contained in products, on a product-by-product basis, throughout their lifecycle.

To respond to these directives and regulations precisely, Mitsubishi Chemical in fiscal 2006 began operation of the Green Information Management System for securely managing and conveying information on chemical substances requiring special management that are contained in products, on a product-by-product basis.

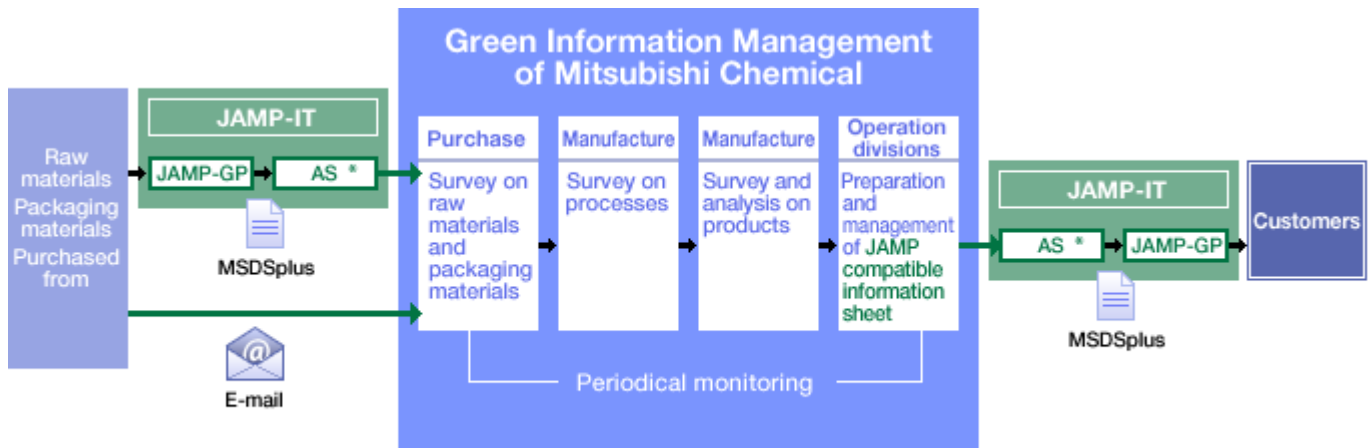
We also promote efforts to obtain and provide information on chemical substances contained in products by using MSDSplus and AIS*5, which are provided by the Joint Article Management Promotion-consortium (JAMP)*4 and is being disseminated and standardized in Japan. This enables prompt and efficient communication of chemical substance information contained in products in the supply chain (processes from material manufacturers to final product manufacturer).

During fiscal 2011, the initial year of the APTSIS 15 five-year mid-term business management plan, the Green Information Management System was reformed so that MSDSplus and AIS may be created automatically from in-house survey data and MSDSplus, AIS and related information may be obtained and provided via JAMP-GP / AS*6, an IT system of JAMP.

Mitsubishi Chemical intends to contribute, together with raw material manufacturers and customers, to building social systems for managing chemical substances through the supply chain.

- *1 End of Life Vehicles (ELV) Directive: A European Union (EU) directive aiming to restrict the use of specified hazardous substances in vehicles, and yield smooth vehicle disposal. The directive prohibits the use of heavy metals (lead, cadmium, mercury, chromium hexavalent) with new vehicles registered on and after July 1, 2003, except in components for which establishment of alternative technologies is difficult.
- *2 Restriction on the use of certain Hazardous Substances in electrical and electronic equipment (RoHS) Directive: Prohibits the use of specified substances in electrical and electronic equipment sold in the EU, requiring manufacturers to fully abolish the use of heavy metals (lead, cadmium, mercury, chromium hexavalent) and specified bromine flame retardants (PBB, PBDE) (Went into force in EU nations in July 2006)
- *3 Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) regulation: A system for regulating registration, evaluation and permits on chemical substances distributed inside the EU, along with chemical substances for which risk management is required and methods of their use, in order to protect human health and the environment from hazardous chemical substances
- *4 Joint Article Management Promotion-consortium (JAMP): A cross-industrial organization for promoting appropriate management, disclosure and communication of information on chemical substances contained in components and molded products (articles) in supply chains
- *5 MSDSplus and AIS: A common sheet for communicating information on chemical substances contained in products to all parties—from material manufacturers to final product manufacturers. When the product is a chemical (chemical substance or compound of such) MSDSplus is used, while AIS is used when the product is a molded article.
- *6 JAMP-Global Portal / AS (Application Service): A platform system for exchanging information on chemical substances

● **Green Information Management System**



*Application Service (AS): A system for connecting to JAMP-GP

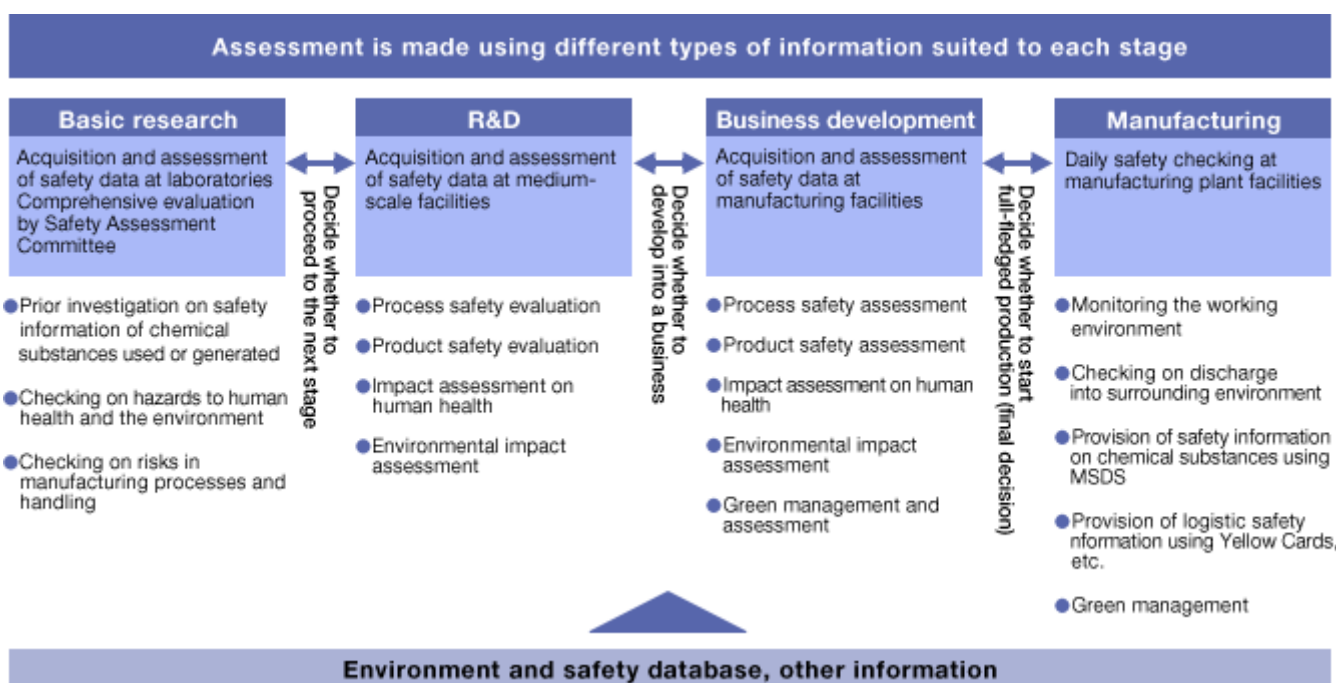
Management of Chemicals

Policy

Our basic stance on safety management of chemicals

The Mitsubishi Chemical Group strives to accurately understand information on all the chemicals it handles; not only for chemical products it manufactures but also their raw materials, by-products and waste generated in the manufacturing processes, as well as their recycled products. Based on the information, the Safety Assessment Committee checks the impacts of chemical substances on people and the environment as well as the safety of manufacturing processes beforehand in executing stringent voluntary management.

● Risk assessment flow on chemical substances in product development



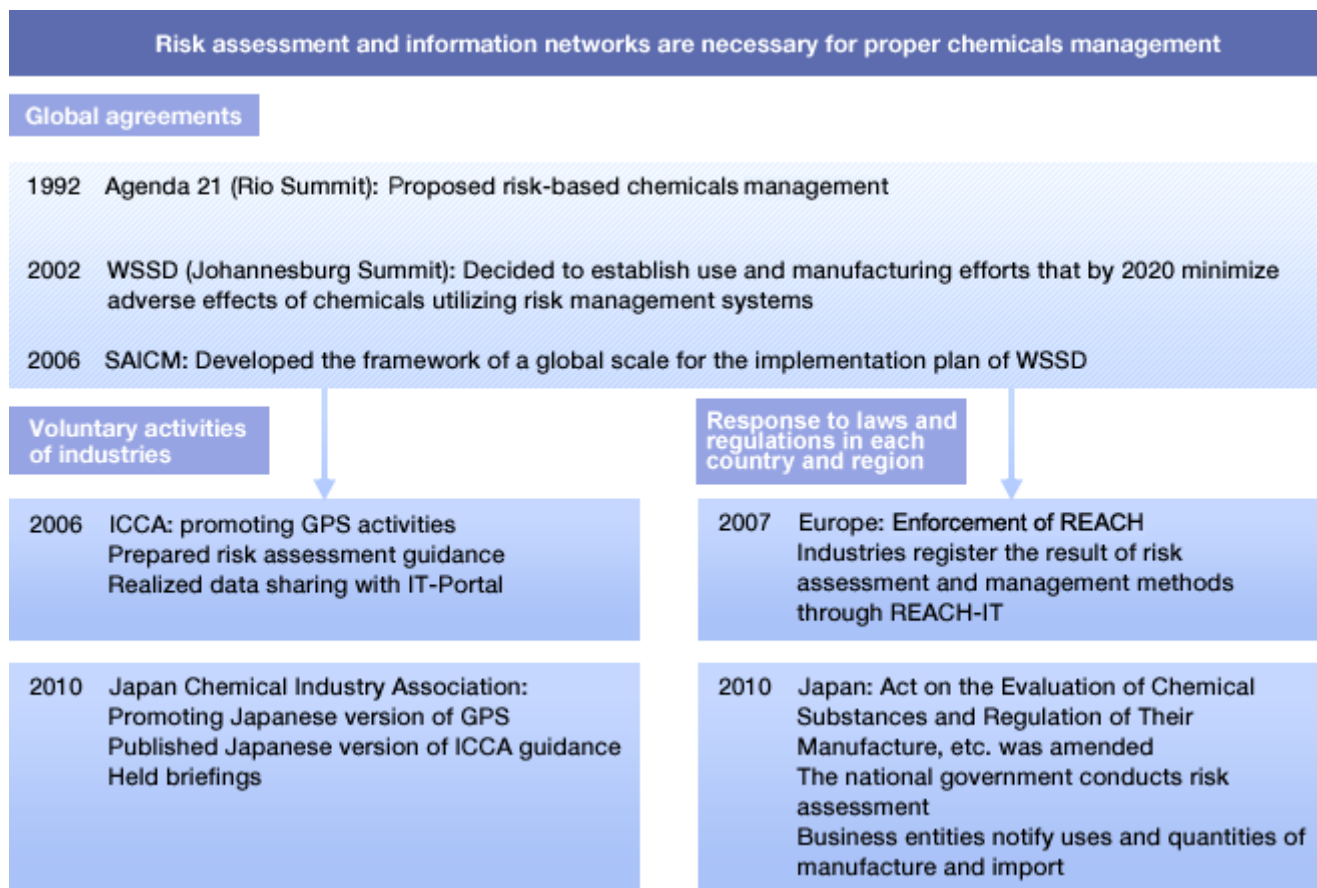
Policy

International strategies for chemicals management

In response to the action target of minimizing adverse effects of chemical substances by 2020 agreed to at the World Summit on Sustainable Development (WSSD - commonly known as the Johannesburg Summit) held in 2002, chemicals management efforts have intensified worldwide in accordance with the international strategy Strategic Approach to International Chemicals Management (SAICM) adopted at the First International Conference on Chemicals Management (ICCM-1) held in 2006.

The International Council of Chemical Associations (ICCA) has promoted Global Product Strategy (GPS) activities for attaining the WSSD target, as the voluntary efforts of industries. GPS activities emphasize risk-based chemicals management throughout supply chains, and disclosure of information of risk management on chemical products.

● International trends in chemicals management



Activities and Achievements

Chemicals management measures by industry

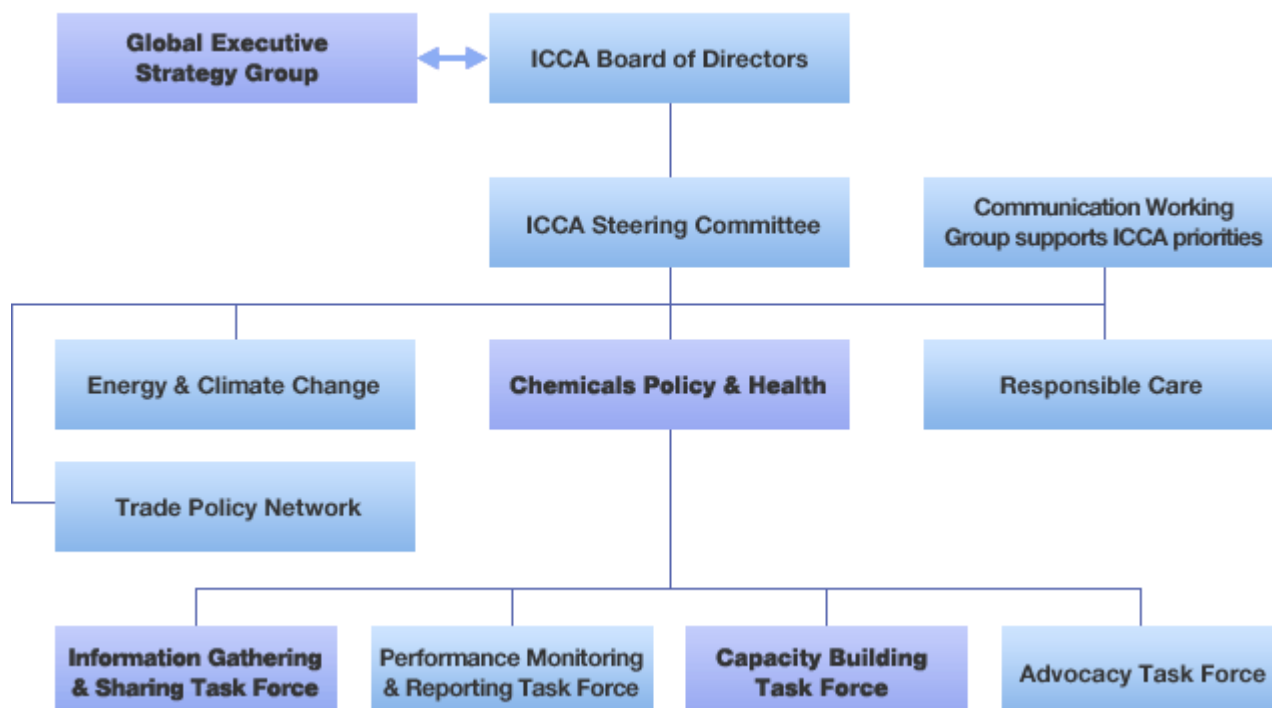
Contributing to activities of ICCA and Japan Chemical Industry Association, mainly through promotion of GPS activities

The President of Mitsubishi Chemical Holdings assumes a role of setting directions for ICCA, as a member of its CEO group. Mitsubishi Chemical is also a member of the leadership group for chemical policy and health that plans and implements skill development programs and lectures in developing countries and for small- and medium-scale enterprises, geared toward attainment of the WSSD targets.

The Japan Chemical Industry Association (JCIA), a domestic organization, also engages in voluntary activities for strengthening risk-based chemicals management at businesses (Japan Initiative of Product Stewardship: JIPS), for promoting ICCA's GPS activities. Mitsubishi Chemical is also a member of the committee for promoting and strengthening JIPS. As part of strengthening JIPS promotion, the risk assessment guidance (2nd edition) was translated and publicized and briefings (for the workforce) were held on JIPS activities during fiscal 2011.

● Organization Chart of ICCA

■ Participated by Mitsubishi Chemical



In-house GPS activities

MOS Indexes C-3: Recognition of corporate trust > [Find out more](#)

Mitsubishi Chemical began GPS activities voluntarily in 2009. These activities involve risk assessment on chemical substances manufactured by the company and management of them in accordance with the results, as well as publication of the results in safety summaries.

During 2009 and 2011, trial GPS risk assessment was conducted for seven substances, for example acetone, while standardizing risk assessment methods. Priority (high, medium, low and out of scope) was set regarding the risk assessment on chemical substances contained in each product. Assessment is to be completed by 2015 for substances ranked as high and medium, and by 2017 for those ranked as low, and safety summaries will be published as necessary. As the forerunner of GPS activities in Japan, we published a total of ten substances during the first half of 2012, starting with publications of safety summaries of four substances in January. Mitsubishi Chemical group companies also plan to complete GPS assessment for the subject substances concerned by 2018.

Measures for communicating information on chemical substances contained in products

Mitsubishi Chemical Corporation compiles information on product constituents, hazards and safe handling in the Safety Data Sheet (SDS)*1 that is presented to customers and partially disclosed on its website. We create the SDSs using a system we introduced in 2008. This system automatically creates SDSs by following the format of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)*2, an international system for indicating hazards and toxicity of chemical substances. We also voluntarily create and distribute GHS-based SDSs of products whose SDSs are not required by law.

We are also a member of the Joint Article Management Promotion-consortium (JAMP)*3 and utilize MSDSplus*4 developed by the Consortium in efforts to provide data on chemical substances contained in products to all members of the supply chain.

*1 Safety Data Sheet (SDS): A document for providing information on the properties, hazards and toxicity, safety measures, and emergency

responses concerning chemical substances when transferring or providing the chemical substances or products to other business entities

*2 Globally Harmonized System of Classification and Labelling of Chemicals (GHS): A globally harmonized system of classification and labelling related to the hazards (hazards and toxicity) of chemicals

*3 Joint Article Management Promotion-consortium (JAMP): A cross-industrial organization for appropriate management, disclosure and communication of information on chemical substances contained in components and formed products (articles) to supply chain members

*4 MSDSplus: A common sheet for communicating information on chemical substances contained in products to all entities; from material manufacturers to those of final products

Policy

Dealing with chemicals management regulations

Measures to cope with amended Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

The Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (the "Act") was amended largely (the "amended Act") and was fully enforced in April 2011.

The Act is aimed at preventing adverse effects from hazardous chemical substances on humans, animals, and plants. Under this law, manufacturers and importers may not manufacture or import new chemical substances for commercial purposes unless they conduct specified safety tests on the substances, have them reviewed by the government, and receive permissions from the government. Depending on the results of the reviews, the government may prohibit the manufacture and import of the new chemical substances or impose strict restrictions or obligations, to protect people and the environment from hazardous chemical substances.

The amended Act regulates not only new chemical substances but all chemical substances including existing ones. In addition, the amended Act has shifted the management method from conventional hazard management to risk assessment*5, which is a global trend.

Accordingly, since the full enforcement of the amended Act in 2011, reporting has been mandated on the quantity of all chemical substances that are manufactured, imported, and used. Priority chemical substances, which are selected by the national government based on information from business entities, are given priority in risk assessment and classified as either substances the volume of manufacturing and imports of which need to be restricted (e.g., specified chemical substances) or general chemical substances confirmed to be low-risk.

Mitsubishi Chemical Corporation identified the volumes of manufacture, imports, shipments, and uses of all the chemical substances subject to yearly reporting, and reported the results to the government in June 2011. These data will be beneficial in risk assessments of chemical substances conducted by the government. At the same time, they will be valuable guidelines for the entire company in studying the risk assessment of chemical substances.

We believe it will be beneficial not only for the global environment but also for a company to operate businesses using safe substances as much as possible through risk management.

*5 Management done by considering not only hazards but also exposure (the extent of impact on people and the environment given the volume manufactured, volume used, and uses, etc. of chemical substances)

Action for REACH regulation

To comply with EU Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) that came into force on June 2007, the Mitsubishi Chemical Group in 2006 established the cross-sectional MCC Group REACH Project. We continue to conduct activities for ensuring compliance with REACH and performance of obligations from the viewpoint of a manufacturer and a processor that exports products to the EU, while thoroughly analyzing each aspect of complicated legal systems and sharing specific measures to address the situation.

► To outline of REACH and activities to date

In fiscal 2011, our focus was on preparing for the registration of substances whose annual imports into the EU is less than 1,000 tons, surveying the content of substances of very high concern (SVHC) in products exported to the EU, and responding to the results of surveys, and providing information and support to Group companies and only representatives under REACH regulation in Europe for ensuring their compliance with laws and regulations.

Implementation in fiscal 2011

1. Preparing for registration of substances with annual imports into the EU of less than 1,000 tons

For existing substances with annual imports into the EU of 100 tons or more but less than 1,000 tons (deadline for registration: May 31, 2013), we resolved issues and produced the necessary information, while compiling an action plan for their registrations through face-to-face meetings with operational divisions and only representatives under REACH regulation responsible for individual subject substances. Currently, we are proceeding steadily with preparations for the registrations in accordance with the action plan.

2. Surveys on content of substances of very high concern (SVHC) in products exported to EU and response to results of the surveys

In EU, additional SVHC*6 are announced several times a year. An importer intending to import into the EU formed products with an SVHC content of 0.1% or higher is obliged to provide users with the content information of the products. Every time an additional SVHC is announced, the Mitsubishi Chemical Group conducts detailed research on the SVHC content of products it exports to EU and provides information to importers or customers as needed.

3. Provision of information for ensuring Group companies and only representatives in Europe are in compliance with laws and regulations

Projects for inspecting compliance with REACH have started throughout the EU, resulting in rising awareness of the importance of information to be managed under REACH. To Group companies in EU including Mitsubishi Chemical Europe GmbH and only representatives appointed by the Mitsubishi Chemical Group, which are directly obliged to comply with REACH, we continually provide the latest information that must be managed legally (including the annual volume of imports of subject substances and information related to registration) as needed.

*6 Substances of very high concern (SVHC): SVHC refers to substances that are selected from among those that are carcinogenic, mutagenic, toxic for reproduction, etc. and that need to be subject to high-level control throughout the EU through supply chains. A total of 84 substances are designated as SVHC as of the announcement made on June 18, 2012.

Future measures

Measures to take in fiscal 2012 and onward

To complete as early as possible the applications for registration of substances should be registered by 2013, we are preparing for registration steadily by seeking cooperation from related SIEF*7 and customers. In addition, we will continue to ensure full compliance in our response to additional SVHC announced continually and to CLP*8, under which notification is mandatory even for samples that are small.

*7 SIEF stands for Substance Information Exchange Forum formed by potential registrants of an identical substance under REACH.

*8 CLP, Classification, Labelling and Packaging of substances and mixtures,

Initiatives to provide society with safe and beneficial chemical substances

Michi Watanabe
Environmental Safety and Quality Department
Mitsubishi Chemical Corporation



At Mitsubishi Chemical Corporation, we believe it our mission to propose new business models and provide differentiated products in diverse fields, including optical materials, fluorescent materials, and batteries, toward the achievement of *KAITEKI* society. To support these efforts, we need to engage in research and development of new chemical substances with superior properties. Naturally, it is essential to assess correctly the impact of such chemical substances on the safety of human bodies and the environment and confirm fully that they will not have any negative impact on our future.

In Japan, laws and regulations including the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (the "Act") make it mandatory that new chemical substances should be subject to specified safety assessments and should be reviewed by the national government through comprehensive evaluations of their risks, before they are manufactured or imported.

At Mitsubishi Chemical Corporation, the Environmental Safety and Quality Department, which I belong to, serves as the point of contact for responding to laws and regulations, including the Act, and takes overall control of chemical substances handled by operational divisions. Under the Act, Mitsubishi Chemical Corporation lodges more than 150 applications per year concerning new chemical substances, including new substances in small quantities, and manages them using a database to ensure appropriate safety assessment. Where safety of a substance cannot be fully confirmed as a result of a safety assessment, we may cease development of the substance. In addition, the amendment of the Act has made it vital to continue to manage chemical substances after their market launch, as well as to ensure compliance with laws and regulations before their launch.

The Act is a highly complex, difficult law. To ensure compliance with this law, each person engaged in research, development, manufacturing, or business operations of chemical substances must fully understand the gist and purposes of the law and respond to it appropriately and properly. To this end, as the department in charge of managing chemical substances, the Environmental Safety and Quality Department regularly holds briefings on laws and regulations to ensure compliance.

As the department responsible for chemicals management, we are committed to strengthening these activities to provide society with safe, beneficial chemical substances.

What is REACH Regulation?

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) refers to European regulations that came into force in June 2007 and have been applied since June 2008, ensuring a high level of protection of human health and the environment, while maintaining and strengthening competence in the chemicals industry in the European Union (EU).

REACH mandates that companies that manufacture or import one ton or more per year of existing chemical substances that are placed on the market in the EU register them in a succession of steps. The authorities evaluate the submitted data after the registration and methods of safety management concerning the substances for which the business applied for registration. Among these substances, specific hazardous substances are designated as Substances of Very High Concern for Authorisation. They are strictly examined, separately from registration, by the authorities with respect to their uses indicated on the applications for approval. They are approved only when the authorities judge that the risk to public health and the environment of using the substances are managed appropriately. Thus, these regulations clearly demand that businesses conduct extremely complicated and extensive chemicals management.

REACH obligates all companies in the EU that handle chemical substances (manufacturers, importers, and users) to properly manage them based on risk assessment, maintain the management processes, and exchange information among all members of supply chains (from manufacturers of raw materials to those of final products).

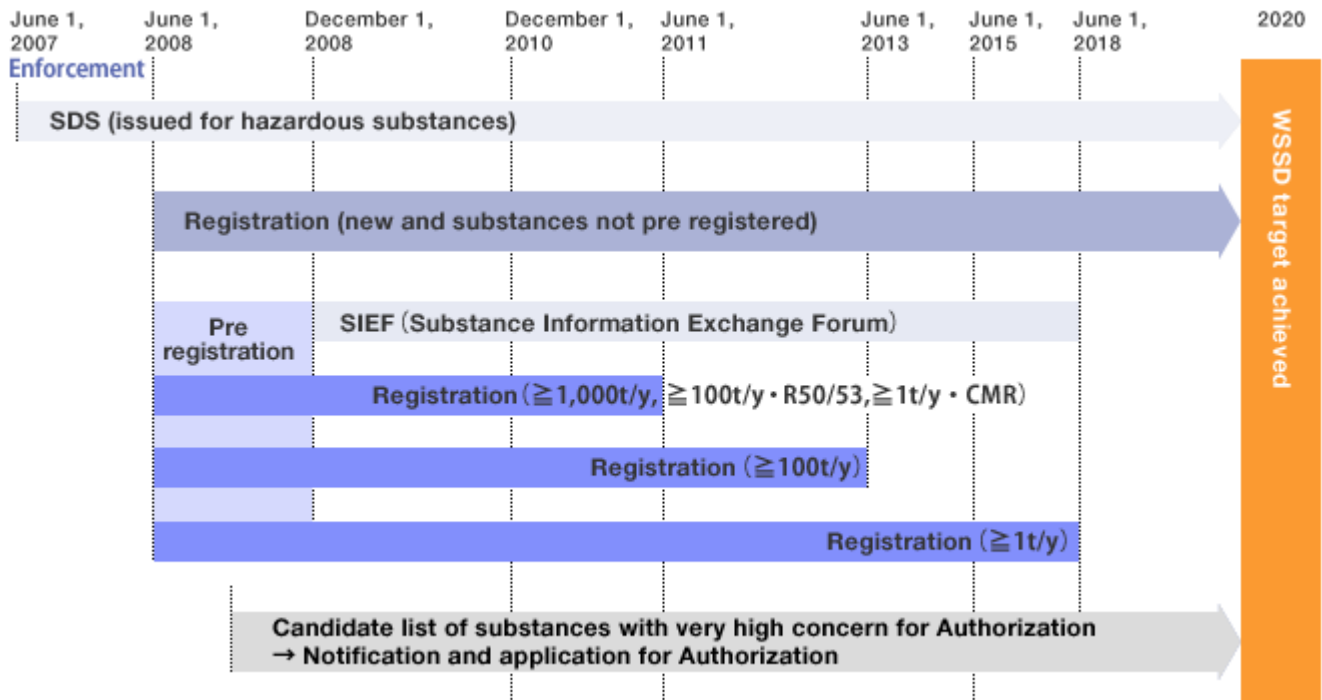
The first step in the procedure is registration. Companies intending to register the same chemical substances jointly conduct a risk assessment for registration application, comprising technical documentation that mainly summarizes information on hazards of the substances and management methods based on risk assessment, and considers uses and applications of the substances.

The Mitsubishi Chemical Group recognize the three priority issues in its efforts to comply with REACH, such as (1) formation of the Substance Information Exchange Forum (SIEF), (2) promotion of communications, and information exchange among supply chain members.

Features of REACH regulation

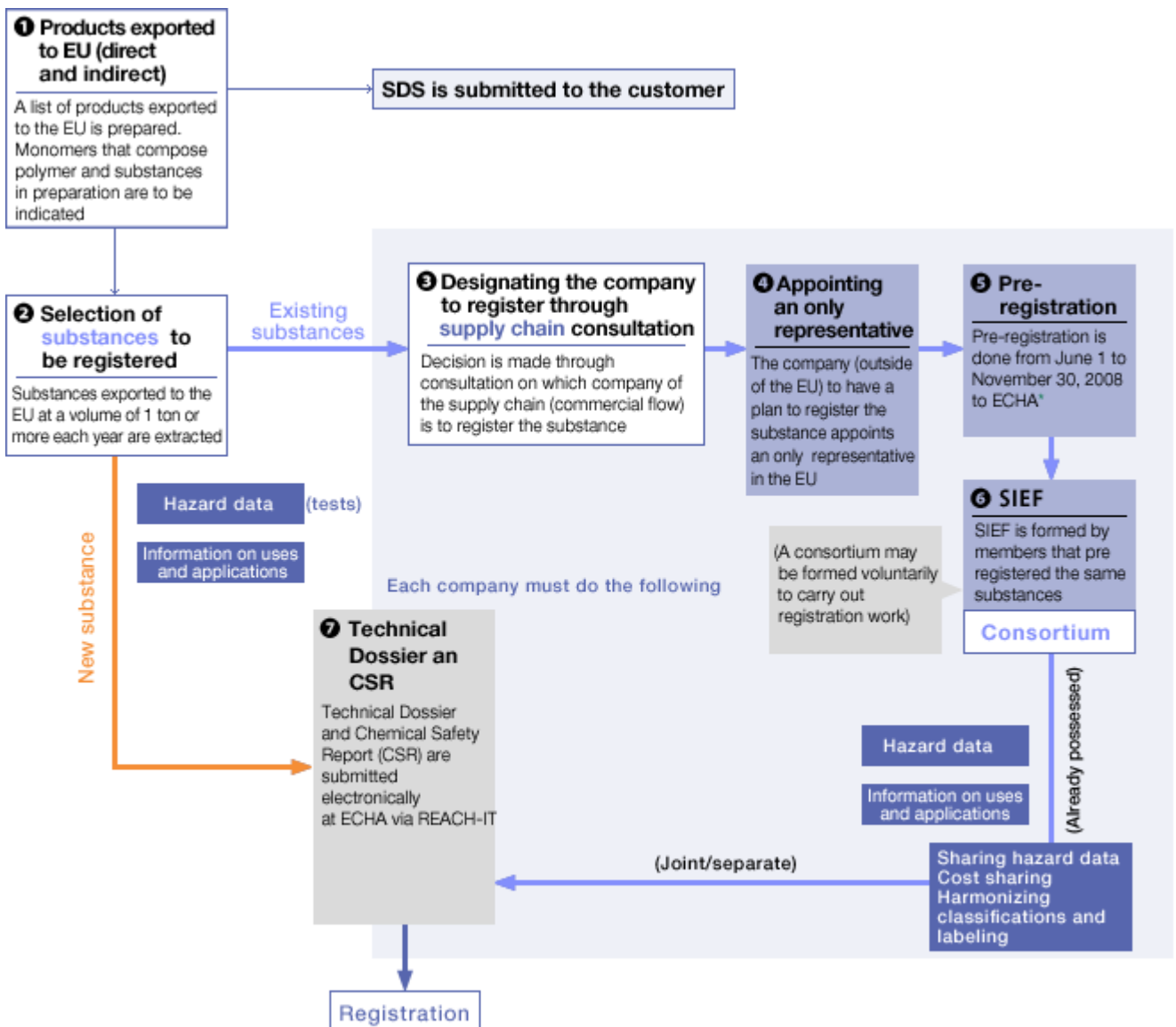
- Demands new and existing chemical substances be handled in almost the same way
- Substances contained in articles also create an obligation in some case, if applicable
- Mandates that industries conduct risk assessment on chemical substances
- Requests information on safety and handling of substances to be communicated to all members of the supply chain
- Requests entities handling the same chemical substance to share the safety data

● Schedule for REACH



- * R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- * CMR: carcinogenic, mutagenic, and reproduction

● Process flow to REACH registration

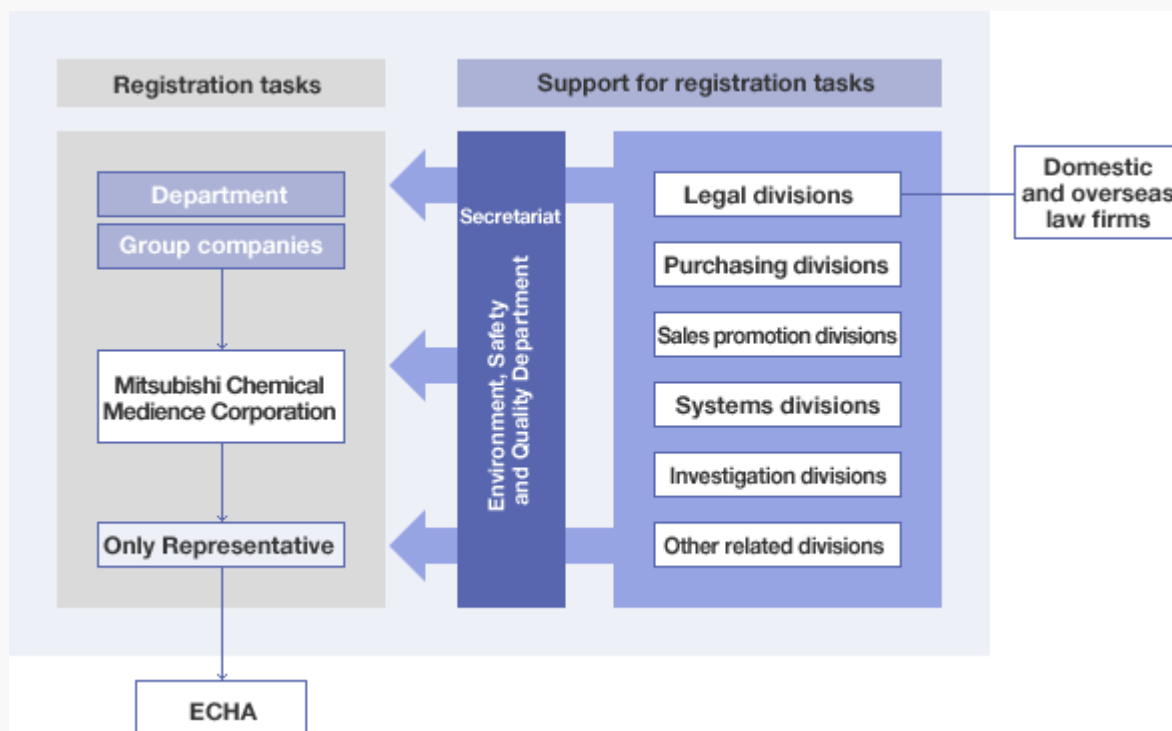


Activities to date

1. Building project organization for the Mitsubishi Chemical Group to comply with REACH

REACH is extremely complicated and requires extensive knowledge and comprehension. In some instances, one company alone may not fully comply with the regulations. Therefore, in 2006, Mitsubishi Chemical configured the MCC Group REACH Project, a cross-sectional organization of the Mitsubishi Chemical Group. The organization aims to strengthen knowledge and comprehension on REACH through sharing of information, and the Environmental Safety and Quality Department of Mitsubishi Chemical serves as its secretariat.

● Organization of MCC Group REACH Project



2. Held briefings for the entire Mitsubishi Chemical Group for explaining REACH legislation and its guidance, as well as ways to deal with it

The project secretariat has held internal workshops every two or three months to deepen understanding of the extensive REACH regulations and the different kinds of guidance issued by the European Chemicals Agency (ECHA) for ensuring compliance with REACH. To fully comply with REACH, each concerned party needs to think of specific measures and take action, so the internal workshops hold discussions while proposing ways to communicate with customers, specific items in preparing for registration and other matters of caution, in addition to explaining the provisions. The internal workshops had been held approx. 30 times as of June 2012 and will continue to be held regularly.

3. Established a helpdesk for Departments and Group companies to consult with

Substances need to be dealt with one by one in the registration work required for REACH. Since procedures and issues differ with each case, the project secretariat offers individual consultation in serving as a helpdesk for the Mitsubishi Chemical Group, and answers customers' questions and provides them with explanations.

4. Opinion exchange with an only representative about registration activities and current situations in the EU

For a manufacturer from outside the EU, an only representative is essential not only for complying with REACH but also for maintaining and expanding business in the EU. The Mitsubishi Chemical Group exchanges

detailed information about specific action items and plans for registration with the only representative, and has participated in the formation processes of the Substance Information Exchange Forum (SIEF) on substances to be registered and technical discussions held therein.

In the beginning of 2011, we started to prepare for the registration of substances with annual imports into the EU of less than 1,000 tons and with registration due in 2013. We are proceeding steadily with the preparations by exchanging information with operational divisions and only representatives under REACH regulation responsible for the individual subject substances. In recent years, we have been communicating closely with only representatives under REACH regulation to ensure compliance in such aspects as responses to requests from ECHA for the submission of information, the registration of new substances, and responses to new businesses.

5. Information exchange among members of supply chain

To comply with the REACH regulation, the key issues are in how rationally and efficiently we can collect information on uses and applications of substances in Europe, which is necessary for registration. We have almost no experience in information exchange among members of the supply chain, which starts with raw material manufacturers and reaches the final users via manufacturers, retailers and logistics operators. Currently there are no official guidelines or tools, so we have endeavored to exchange information with customers in relation to REACH, at the same time explaining the REACH requirements to them and taking inventive actions such as generalizing information on uses and applications. We will continue to undertake these activities proactively.

In addition, each time additional SVHC*s are published, the Mitsubishi Chemical Group conducts detailed research on SVHCs content of products it exports to EU and provides information to importers or customers .

6. Cooperating with activities of chemical and other industrial organizations such as Japan Chemical Industry Association

Mitsubishi Chemical participates in the working group of the Japan Chemical Industry Association for dealing with REACH, in efforts to understand the provisions and find solutions to questions and issues. We have also strived to communicate as much information as possible and share recognition by actively giving lectures offered by various industrial associations, with the hope of providing our REACH activities as a example of practice.

7. Information exchange for registration work through domestic consortium activities

In relation to the registration of certain general-purpose chemical substances, some of the companies in our industry involved with registration have established several domestic consortiums for information exchange. Mitsubishi Chemical has also presented opinions at consortiums in the EU, as a domestic consortium leader for certain substances. This made it possible for us to complete the registration procedures for existing substances without any trouble by the registration closing date of November 30, 2010, fulfilling the aim of these activities.

* Substances of very high concern (SVHC): SVHC refers to substances that are selected from among those that are carcinogenic, mutagenic, toxic for reproduction, etc. and that need to be subject to high-level control throughout the EU through supply chains. A total of 84 substances are designated as SVHC as of the announcement made on June 18, 2012.

Together with Stakeholders

Basic concept

● Basic policy in communications with stakeholders

	Basic policy	Tools	Opportunities
Customers	We aim not only to offer products and services that are safe and of high quality; it also aspires to build even a better society together with its customers, by working with them to solve their issues and achieve their ever more diverse and complex targets.	<ul style="list-style-type: none"> • Websites • Press releases • Product brochures • MSDS • ADs 	<ul style="list-style-type: none"> • Sales activities • Call center • Purchasing activities • Questionnaires • KAITEKI forum • Showroom • KAITEKI CAFE
Business Partners	Recognizing all entities trading with our company as business partners, we strive to build a mutually trusted relationship and foster fair and appropriate trading practices with them.	<ul style="list-style-type: none"> • Websites • Press releases • Product brochures • MSDS • ADs 	<ul style="list-style-type: none"> • Sales activities • Call center • Purchasing activities • Questionnaires • KAITEKI forum • Showroom • KAITEKI CAFE
Employees	Mitsubishi Chemical sincerely associates with each of its employees and strives to establish rewarding workplaces where each employee's abilities may be utilized to the utmost, and where employees can work with enthusiasm by mutually respecting diverse values.	<ul style="list-style-type: none"> • Intranet • <i>Chemipal</i> 	<ul style="list-style-type: none"> • Employee surveys • Labor-management consultation
Regional communities and greater society	Understanding our responsibility of being a good corporate citizen, we make sure that our activities live up to the demands and expectations of society and people.	<ul style="list-style-type: none"> • Websites • CSR reports • Report from operating companies 	<ul style="list-style-type: none"> • Factory tour • Meeting with local authorities • KAITEKI CAFE

*Please also refer to the “List of Our Communication Activities with Stakeholders” on the MCHC’s KAITEKI report.

Policy

Basic ideas

The Mitsubishi Chemical Corporation (MCC) Group aims to not only offer products and services that are safe and of high quality; it also aspires to build *KAITEKI* society together with customers by working with them to solve their increasingly diverse and complex challenges and achieve their targets.

Policy

Providing solutions by positioning Sustainability, Health and Comfort as the decision criteria for our corporate activities

MOS Indexes C-1: Deliver products (development and manufacturing) for comfortable lifestyle > [Find out more](#)

As a member of the Mitsubishi Chemical Holdings Group, the MCC Group offers solutions to customers through a broad range of chemistry-based products and technologies by positioning Sustainability, Health and Comfort as the decision criteria for its corporate activities.

In addition to promoting the shift to high-performance products, the generation of high-added value and green businesses in the Performance Products segment, achieving healthcare solutions in the Health Care segment and offering global support and high-performance products in the Industrial Materials segment, the MCC Group also focuses on an increasingly diverse range of chemical raw materials to create industrial materials that contribute to the global environment and new carbon society, paving the way towards the achievement of *KAITEKI* together with customers.

Activities and Achievements

Striving to be a Group that customers will choose as a partner

MOS Indexes C-2: Improve stakeholder satisfaction
C-3: Recognition of corporate trust > [Find out more](#)

The Mitsubishi Chemical Holdings (MCHC) Group holds a common view of the importance of accurate insight into social issues and challenges that customers face, and maintaining close communication with customers in the course of finding solutions. To this end, we decided to conduct customer satisfaction surveys starting fiscal 2012, and undertook preparations for the surveys during fiscal 2011. In addition to questions about the core business activities of the MCHC Group relating to product quality and systems for supply, sales promotion and technical support, we also plan to ask customers about the attitude and trust of operating companies. By analyzing the results obtained and executing the PDCA cycle, we hope the surveys will lead to improved customer service and greater satisfaction.

The MCHC Group has established Chemistry Plaza, a showroom that serves as a starting point for collaboration with

customers and the creation of solutions. Here, visitors can understand and experience MCHC Group products, technologies and application examples hands-on. To coincide with the relocation of the MCHC and MCC head office, the showroom will be relocated to Marunouchi in Tokyo's Chiyoda Ward and is scheduled to be newly opened as KAITEKI SQUARE in October 2012. The new showroom will introduce visitors to the initiatives and aspirations of the MCHC Group, including key products and business. We hope that many visitors will utilize KAITEKI SQUARE as a communication space for considering a better future together with all members of society.

MCC has also established two other Chemistry Plazas. One is Chemistry Plaza Yokohama, located in Mitsubishi Chemical Group Science and Technology Research Center (Kanagawa Prefecture). It houses the kind of cutting-edge technologies and platform technologies that are only found at an R&D facility. The other is Chemistry Plaza Yokkaichi, located in Yokkaichi Plant (Mie Prefecture), which principally displays resin products and technologies to convey our quality manufacturing capabilities. During fiscal 2011, Chemistry Plaza Yokohama and Chemistry Plaza Yokkaichi welcomed 1,887 and 1,545 visitors respectively.

Policy

Basic ideas

For the Mitsubishi Chemical Group to continue its daily business activities, the cooperation of numerous business partners is essential. These partners include raw materials suppliers, plant maintenance companies, logistics companies, and subcontractors working onsite.

Mitsubishi Chemical views those companies that cooperate with its operations as business partners, and aims to build trust while continue growing together with them. We have also established purchasing guidelines to ensure fair and equitable transaction practices.

Purchasing Guidelines (Excerpted)

Principles

1. Purchasing competitive materials, equipment, and services
2. Openness and fairness
3. Partnerships and mutually beneficial relationships

Codes of Conduct

1. Compliance with laws and regulations
2. Fairness, impartiality, and transparency in decision-making process
3. Clear distinction between private and business relationships

Requests for Suppliers

1. Compliance with laws, regulations, and social norms

We request each business partner to comply with the following laws, regulations and social standards, in all countries and regions in which they operate.

- (1) Compliance with laws and regulations concerning the manufacturing and distribution of raw materials.
- (2) Compliance with laws and regulations concerning labor, health, and safety, and development of proper working environments.
- (3) Prohibition of racial and sexual discrimination, and respect for the dignity of each employee.
- (4) Prohibition of bribery and unfair proceedings.
- (5) Compliance with environmental laws and regulations.

2. Promoting sound business management

3. Consideration for the environmental issues

4. Non-disclosure of confidential information

▶ The full text of the purchasing guidelines is available here. [🔗](#)

Ensuring full compliance with the Subcontractor Act

Mitsubishi Chemical conducts transactions pursuant to the Subcontractor Act Compliance Rules established in April 2008. The Subcontractor Act Compliance Rules clearly establishes an organization for complying with the Subcontractor Act, and specifically stipulates the intentions and scope of application of the Subcontractor Act and compliance matters in tasks related to order placement and payment.

During fiscal 2011, we urged employees to participate in seminars offered by outside parties, in addition to in-house study meetings, to ensure full compliance with the matters stipulated by the Subcontractor Act Compliance Rules. Also, plant purchasing departments were audited to confirm compliance with the Subcontractor Act. Study meetings and audits will continue to be held during fiscal 2012 as well, to ensure compliance with the Subcontractor Act.

Activities and Achievements

Holding Business Partner Briefings

MOS Indexes S-3: Contribution to reduce environment impact through supply chain management
[> Find out more](#)

Mitsubishi Chemical aims to promote CSR activities together with its business partners, to help build a sustainable society. As part of these efforts, we have established Green Information Management System in 2006, to comprehensively manage and convey information on chemical substances contained in products with the cooperation of our business partners. In the same year, we also established purchasing guidelines, made efforts to build fair and equitable relationships with our business partners, and asked our business partners to promote CSR initiatives.

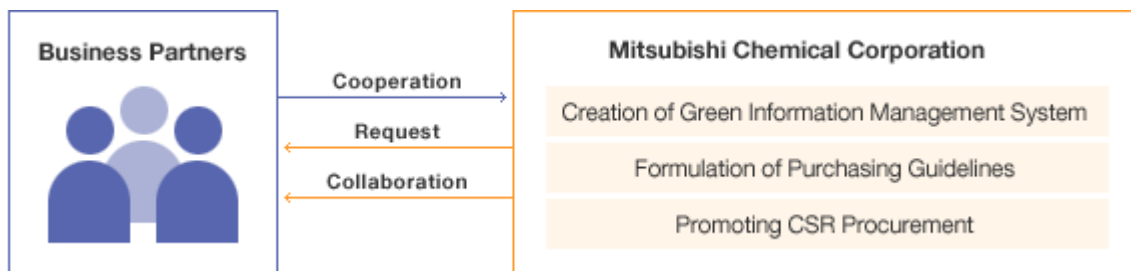
In fiscal 2010, a CSR briefing for business partners was held to explain the following areas to 170 raw materials manufacturers: (1) Mitsubishi Chemical's concept on CSR; (2) promoting CSR by business partners; and (3) requesting cooperation with the CSR questionnaire on ideas and activities of CSR by Mitsubishi Chemical. The briefing was also attended by business partners of our Group companies Japan Polychem Corporation and Dia Packaging Materials Co., Ltd.

We conducted a CSR questionnaire of business partners who account for more than 90% of all purchase amounts, including the 170 companies who attended the briefing, for purchases made by Mitsubishi Chemical's Purchasing Department and under the authority of its business divisions. More than 90% responded, or an average of 34 out of 36 points. A similar questionnaire was also distributed to business partners involving materials. Overall, Mitsubishi Chemical Corporation and Mitsubishi Chemical Engineering Corporation asked a total of 400 companies for their cooperation. Mitsubishi Chemical visited six companies, focusing on those who scored highly in their questionnaire results, to confirm the status of their CSR progress and exchange information.

At the fiscal 2011 Business Partner Briefing, explanations were delivered to 253 material manufacturers regarding (1) the details of Mitsubishi Chemical initiatives aimed at achieving *KAITEKI*; (2) the details of Mitsubishi Chemical's review of green management and operation; and (3) a request for business partners' cooperation in responding to a green survey, and the migration to a new green survey was begun.

Looking ahead, in addition to selecting companies to interview with a focus on CSR procurement, Mitsubishi Chemical plans to provide business partners with feedback in the form of tabulated results based on the CSR questionnaire results and further promote CSR activities. In particular, in promoting CSR procurement to supplier business partners who scored poorly in the questionnaire, we will continue to encourage implementation as a CSR initiative in the supply chain.

● Working with Business Partners to Create Initiatives Designed for a Sustainable Society



Activities and Achievements

Conducting a general safety rally with our partner companies

Each Mitsubishi Chemical plant has established a work health and safety association to promote safety activities in conjunction with those at affiliates engaged in plant work or other tasks inside the plant, and has also provided a forum for regular liaison committee meetings and exchanges of views. At the Mitsubishi Chemical Mizushima Plant, in addition to regular liaison meetings (held once a month) and education (education during induction, skill education, etc.), training workshops aimed at affiliate managers are held in October each year. At the training workshops, efforts are made to improve communication by having attendees engage in group discussions with the theme of safety activities and, then having the general managers of related divisions listen directly to the results. In fiscal 2011, discussions took place on the themes of "education for new plant inductees" and "how to resolve the current problems facing in-plant work overall," and extensive feedback was received. Regarding those issues brought up during the training workshop that require particular consideration, personnel from Mitsubishi Chemical and affiliates consider which measures to take and report on the results of those measures at the training session held in the following fiscal year.



Group discussions taking place at a training session

Together with Employees

We undertake a range of initiatives to ensure that our employees, who act as the stewards for achieving *KAITEKI*, can maximize their potential.

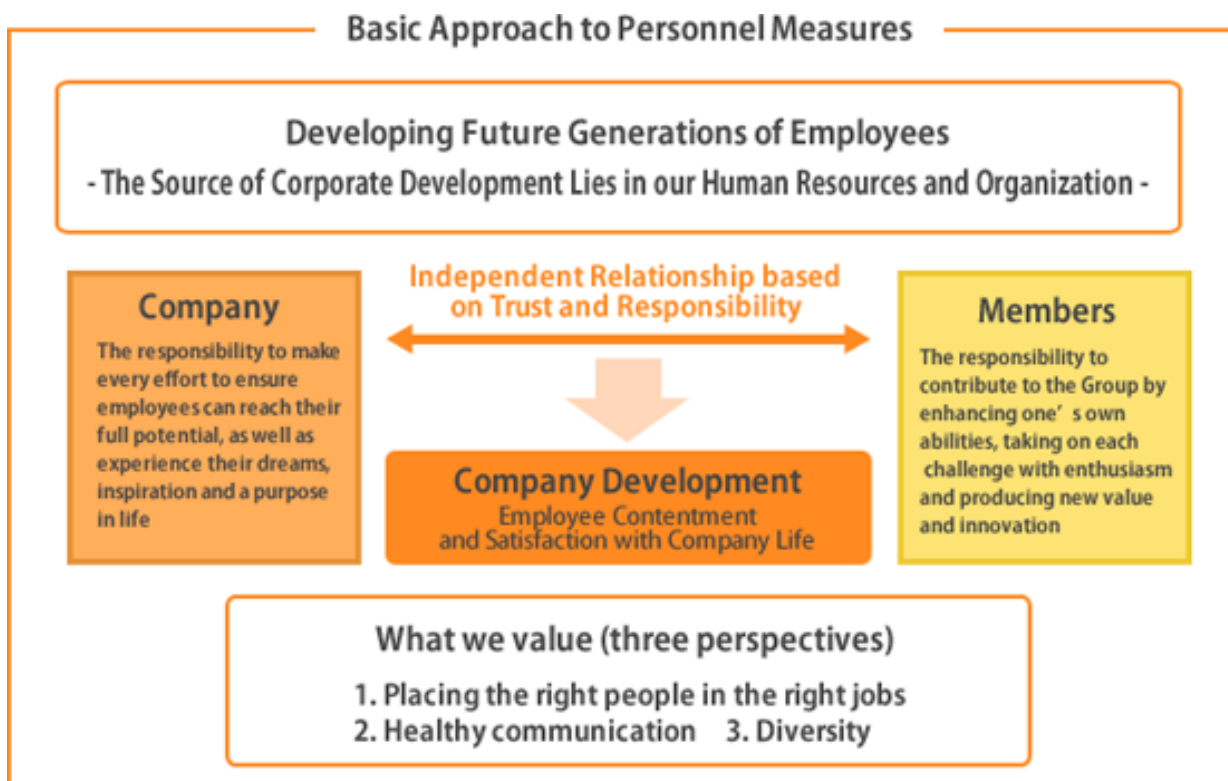
- Basic approach
- Initiatives aimed at human resource development: Training people capable of thinking and acting independently
- Offering opportunities to take on challenges and boost awareness
- Initiatives aimed at developing the organization and corporate climate: Striving to develop an organization and corporate culture that makes work rewarding for anyone
- Helping employees attain a work-life balance by promoting a reduction in total working hours
- Striving to establish a culture of human rights through ongoing education and awareness-raising activities
- Running of employee awareness surveys
- Building productive labor-management relations

Policy

Basic approach

The Mitsubishi Chemical Group believes that for the sustainable development of a business, the Company and each employee need to build autonomous relations based on trust and duty while fulfilling respective responsibilities, with a focus on human resources development, and the development of a good organization and culture. Based on this concept, we associate with each employee sincerely and offer a rewarding working environment that suits personal levels of development, so that the capacities of each member are brought out to the fullest extent. These efforts emphasize human resources development, organizational and cultural development, and support for attaining work-life balance.

● Mitsubishi Chemical's Personnel Policy



Personnel strategies for sustainable development of companies

Kazuyuki Futamata

Executive Officer and General Manager of Human Resources Dept.

Mitsubishi Chemical Corporation



The Mitsubishi Chemical Group's MCC APTSYS 15 medium-term management plan indicates dealing with business structure reform and with globalization as issues of business management. These are also regarded as important themes within personnel strategies, and specific action plans have been formulated and implemented.

In dealing with structural reforms, personnel will be strategically assigned to increase competence in our business activities while optimizing balance among staff. For globalization, efforts are underway to cultivate human resources with a global vision capable of realizing and managing mergers, acquisitions, alliances and partnerships with overseas companies – areas where increased activity is expected in the future. We will also continue with efforts to cultivate and utilize domestic personnel.

Further, to promote the flow of personnel across departments and boost organizational vitality and competitiveness, we are striving to secure human resources for sustainable corporate growth and enhance our abilities to cultivate and utilize those human resources through ongoing initiatives to disseminate the personnel treatment system we revised in 2011, pursue the achievement of a healthy work-life balance for employees and add greater depth to our human resource development system.

Activities and Achievements

Initiatives aimed at human resource development:

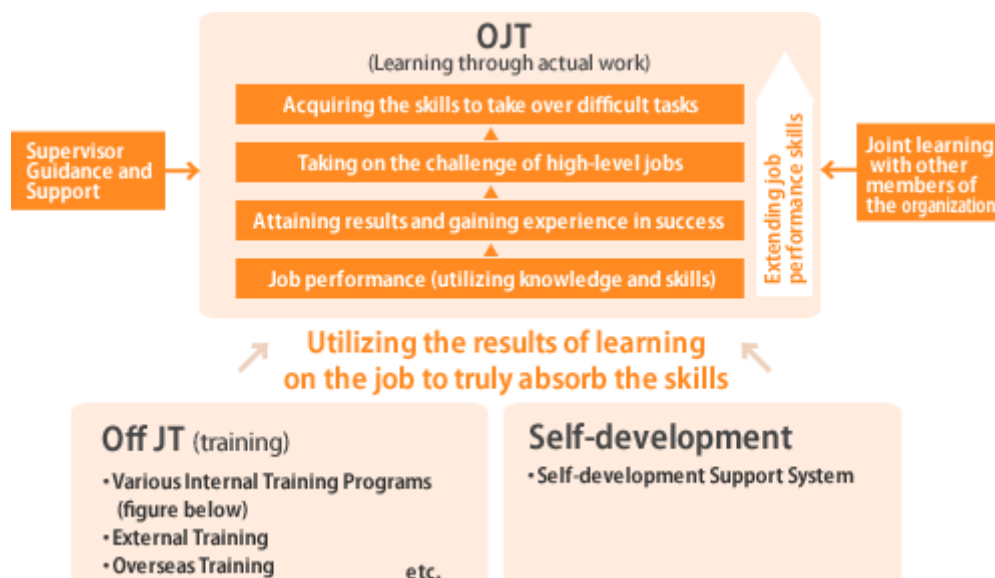
"Training people capable of thinking and acting independently"

Basic Approach to Human Resource Development

Mitsubishi Chemical believes there are three important elements in the growth of human resources, namely OJT*¹ where personnel learn through actual work, OffJT*² where personnel utilize opportunities outside work for learning, and self-development, where personnel themselves engage in learning in various ways. By establishing links between these three elements and supplementing them with one another, they become more effective overall. With these three elements as the pillars, Mitsubishi Chemical supports the growth of its personnel in a number of ways.

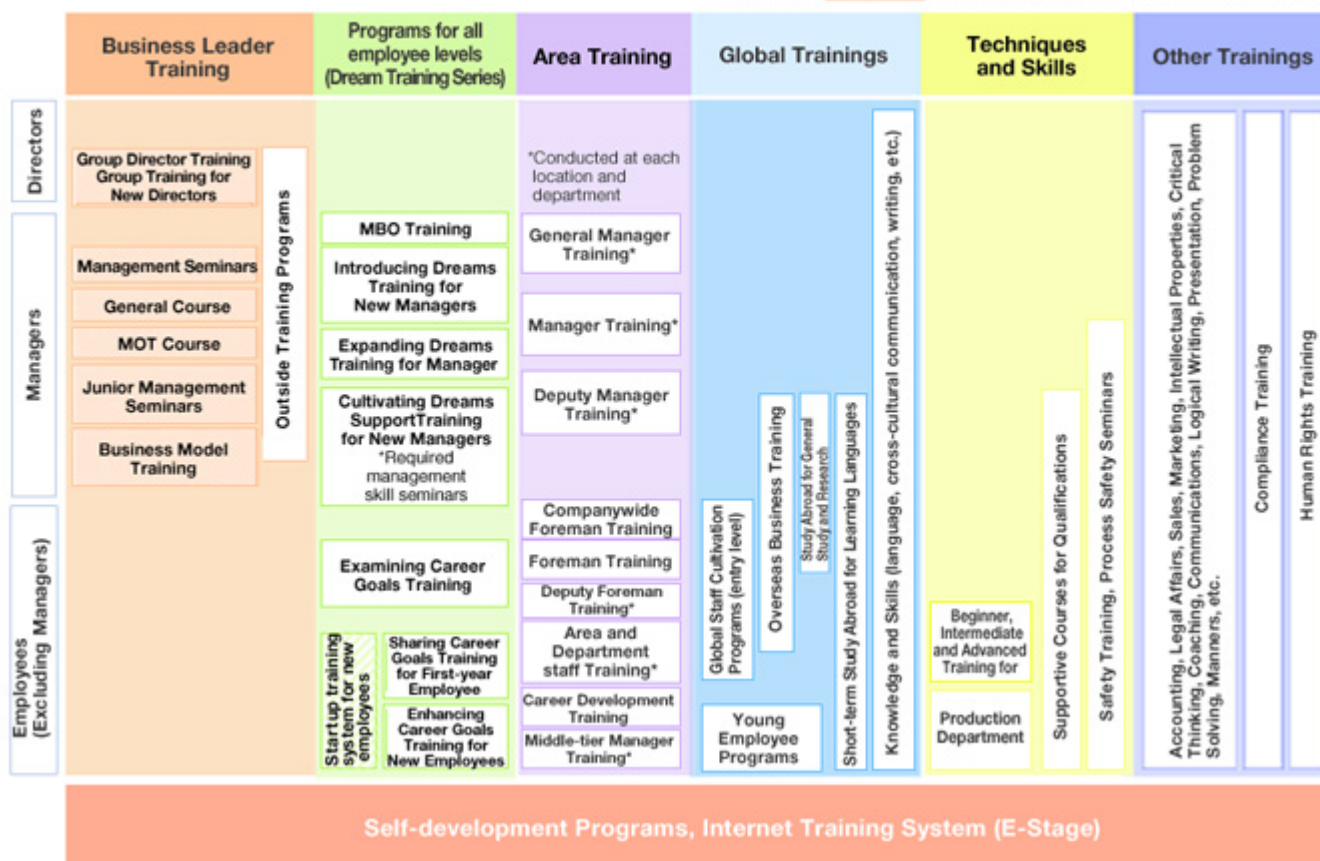
*¹OJT : On the Job Training *²OffJT : Off the Job Training

The Three Pillars of Human Resource Growth



● Employee training system of Mitsubishi Chemical Group

Programs in are conducted by Mitsubishi Chemical Holdings



Enlarged view

Management System

MOS Indexes C-2-2: Improve employee-related indicators > [Find out more](#)

Since 2001, Mitsubishi Chemical has employed a target management-oriented evaluation system. Today, the system applies to all employees, under which we conduct goal setting interviews at the beginning of a period and performance evaluation interviews later on. In fiscal 2011, we also introduced a system to hold interviews part way through a period. In this way, we are working to further disseminate the personnel system and improve the legitimacy of evaluations.

Fostering the next generation of executives

The Mitsubishi Chemical Group participates in the Mitsubishi Chemical Holdings Business College: General Course aimed at the early development of the next generation of executives. Employees recommended by respective Group companies participate in this program for fifteen months to acquire skills useful for actual business operations, strategy formulation and implementation, through management literacy education, case studies and research on specific topics.

For example, in the Lessons by Executives part of the program, current executives give lectures based on their experiences, then join the participants in a discussion. In this way, the aspirations of the executives and current issues are conveyed to and shared by future generations, and participants are expected to identify practical actions they should make.

After the seminar, employees who participated are assigned to positions and duties that allow them to practically apply what they have learned and expand their experience, and which promote their growth.

Cultivating Global Human Resources

The Mitsubishi Chemical Group recognizes dealing with globalization as a management issue. Active efforts are underway for globalizing businesses, by establishing overseas production bases and expanding overseas businesses mainly in China, India, and other emerging economies. In connection with these efforts, in addition to conventional training we have begun new initiatives to cultivate global management human resources capable of dealing with mergers and acquisitions and the configuration of alliances and partnerships.

For fiscal 2011, the second year of the Global Staff Cultivation Program (entry level) started in fiscal 2010 for young employees who have no experience in overseas duties, China was selected for the training area as the most lively business region. Trainees visited local subsidiaries and other locations, heard lectures from local senior management, held discussions with regional staff and research on specific topics related to overseas business. One participant commented that, "I'm now even more motivated to challenge myself to make a mark as a global staff member. Looking ahead, I hope to broaden my own fields and acquire the necessary skills."



Scene from global training

To expand the horizons of human resources able to perform on the global stage, we reviewed our existing overseas internship program and restarted it as the Overseas Business Challenge Program in the latter half of fiscal 2011. Through the new program, we have expanded the range of choices in terms of the location, timing and duration of overseas internships, making it possible for more employees to gain experience in language study and practical training overseas.

Activities and Achievements

Offering opportunities to take on challenges and boost awareness

In addition to usual personnel transfer and rotation among divisions, Mitsubishi Chemical has established a system where employees may declare their desires related to their duties and career and transfer to desired areas.

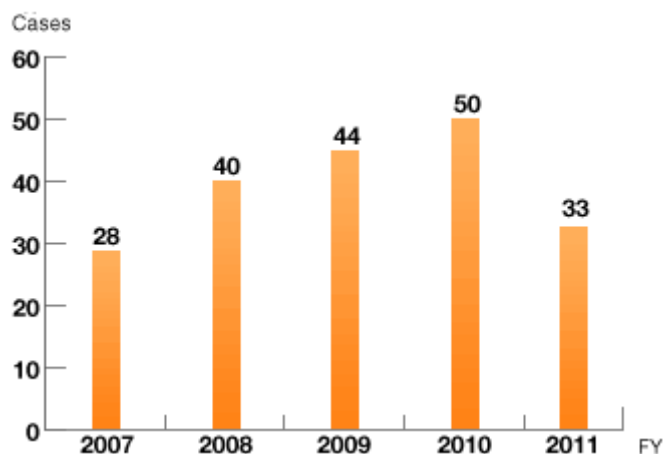
The system works in three ways: open recruitment where programs are offered in-house and those wishing to participate apply, in-house free agencies where employees make a request for a transfer to another duty, and in-house internships where employees are transferred to another duty for two to three years for training on the assumption they will return to their previous duty. In fiscal 2011, ongoing efforts were made to encourage greater use of the system, such as improving ease of use by unifying application forms and trying more effective measures for publicizing the system among employees.

A career counseling system adopted in fiscal 2006 also enables employees to independently consider their career path. Qualified career counselors are assigned in-house and other employees may consult with them at any time about their careers. The system offers awareness-building opportunities for employees who are seeking to form their career path. Individual guidance is given from the viewpoints of taking inventory of one's career so far and of rediscovering oneself.

● Actual use of open recruitment, in-house free agencies, and in-house internships

● Number of people who consulted career counselors

Title		2009	2010	2011
Open recruitment	Programs offered (people)	17	19	13
	Applicants (people)	42	25	13
	Accepted (people)	10	6	6
In-house free agent (people)		1	0	0
In-house internship (people)		1	1	4



Activities and Achievements

Initiatives aimed at developing the organization and corporate climate
"Striving to develop an organization and corporate culture that makes work rewarding for anyone"

The Mitsubishi Chemical Group proactively promotes diversity for developing a corporate culture where all employees mutually respect each others' values and find work rewarding.

Efforts to promote the active participation of female workers

MOS Indexes C-2-2: Improve employee-related indicators
 C-3: Recognition of corporate trust > [Find out more](#)

Aiming to be a company where all employees work to their fullest capacities regardless of their gender, as well as having appeal as a place where energetic workers come together, Mitsubishi Chemical in 2008 adopted the Women's Initiative & Work Innovation (WIN-WIN) Plan. Using the targets stated in the plan as guidelines, Mitsubishi Chemical has established systems to provide necessary career support to female workers, including leave while accompanying the spouse's overseas assignment, temporary suspension of transfer, and declaration of the desired place of work. Systems related to child care and family care that help women maintain a work-life balance are also being used on an ongoing basis, and we continue to offer various supporting measures that women require, such as the WIN-WIN plan.

● Target values of Women's Initiative & Work Innovation (WIN-WIN) Plan (%)

Item		2009	2010	2011	Target values*
Ratio of women among management		4.6	4.6	4.9	over 20
Ratio of women among new hires	Clerical	32	41	39	over 40
	Engineering	9	16	14	over 20

* The target for ratio of women among management is for fiscal 2025 and for women among new hires is for fiscal 2015.

Example of an Initiative Aimed at Promoting Active Participation of Female Workers

The Mizushima Plant launched a project to promote the active participation of female employees in 2009. The project includes the formulation of medium-to-long term career plans, job analysis and training aimed at changing the way of thinking about employees and the organizational hierarchy.

In fiscal 2011, group work dealing with the various challenges faced by the plant was conducted. Mizushima Halcion Activities was newly established as a body tasked with realizing the recommendations produced, and activities are still being pursued in this capacity on an ongoing basis.

Mizushima Plant has also gained recognition for initiatives including its track record of having male employees take child care leave. The plant has sought to develop a work environment in which employees can actively engage in work regardless of gender, earning it an award from the Okayama Governor as an Okayama Child-raising Support Declaration Company.

In the same way, at each of its sites Mitsubishi Chemical is working to develop a corporate culture in which female workers can actively participate.



Mizushima Halcion Activities

Work-life balance support systems introduced in fiscal 2010 (both male and female employees are eligible)

1. Leave for accompanying spouse's overseas assignment

Allows employees to take leave of up to three years when accompanying the spouse's overseas assignment.

2. Temporary suspension of transfer

Allows employees to be exempted from transfer that accompanies relocation and to continue working at the current place of work for a specified period while raising a child.

3. Declaration of desired place of work

The system allows employees to ask to be transferred to the spouse's place of assignment when the spouse is transferred to a remote location and work-life balance is hindered or there are other family reasons.

● Status of use of systems for work-life balance

FY

System	2009	2010	2011
Maternity leave before and after childbirth (people)*1	67 ※3	62	59
Child-raising leave (people)	123 *3	126	116
Shorter work hours while raising a child (people)	192	211	210
Nursing care leave (people)	0 *3	2	2
Shorter work hours while providing nursing care to family members (people)	1	1	3
Fertility treatment leave (people)	0	1	0
Subsidy for fertility treatment (cases)	30	29	31
Leave to accompany spouse's overseas assignment (people)*2	-	3	1
Temporary suspension of transfer (people)*2	-	1	0
Declaration of desired place of work (people)*2	-	5	3

*1 Only female workers may take maternity leave before and after childbirth. Both male and female workers are eligible for other support systems.

*2 These are the systems for supporting work-life balance that were introduced in fiscal 2010.

*3 The numbers of Mitsubishi Chemical employees who used the systems (including the Group companies staff) as taken from the 2010 CSR Report are indicated.

Employees using work-life balance support systems (leave while accompanying the spouse's overseas assignment)

Michi Oohashi
Administrative Department
Yokkaichi Plant
Mitsubishi Chemical Corporation



My husband was transferred to the United States in 2010, and for a while I continued to work alone in Japan. However, the system for leave while accompanying the spouse's overseas assignment was introduced, and since I also had the backing of my supervisor, I decided to take the leave. Thanks to the system, I was able to join my husband without having to quit my job. I also appreciate the warm sending-off I received from everyone at the workplace.

After returning from the leave, people would tell me, "I'm relieved to know that I'll be able to continue working if I use the system when I find myself in the same situation," and I realized that there were quite a few employees facing similar trouble. What's more, through my life in the United States, I had the opportunity to meet people from different businesses and walks of life with whom I'd never had contact, and this has become highly motivating for considering my future career. After returning to work, as well as resuming my former duties I look forward to challenges new areas as well.

Using systems for child-raising leave and shorter work hours while raising a child

Maki Sugita
Purchasing Department
Mitsubishi Chemical Corporation



In September 2009 I gave birth to my first child, and after taking child-raising leave for about a year, I returned to work in September 2010. Since returning I have been working while taking advance of the system for shorter work hours while raising a child. For the first six months after returning to work, I experienced many difficulties in achieving a balance between raising a child and work, but now I have the understanding of those around me and am managing the same duties as before I took leave. Since raising a child can involve having to take leave suddenly, my current workplace has developed a system to ensure that work is carried out under a two-person team. As I'm due to have my second child from around September 2012, I plan to take maternity leave before and after childbirth and child-raising leave. After returning to work, I again strive to achieve a healthy balance between work and family.

Promoting diversity in recruitment

MOS Indexes C-2-2: Improve employee-related indicators > [Find out more](#)

Mitsubishi Chemical promotes diversity in its recruitment activities, with the hope of revitalizing the organization by addressing changes in business structure and globalization, and by assembling diverse human resources. Specifically, hiring local human resources is promoted in Japan and at overseas companies as a measure in response to globalization. Application eligibility has also been expanded for university graduates, treating them as new graduates for up to three years after graduation. We are also making active use of mid-career recruitment.

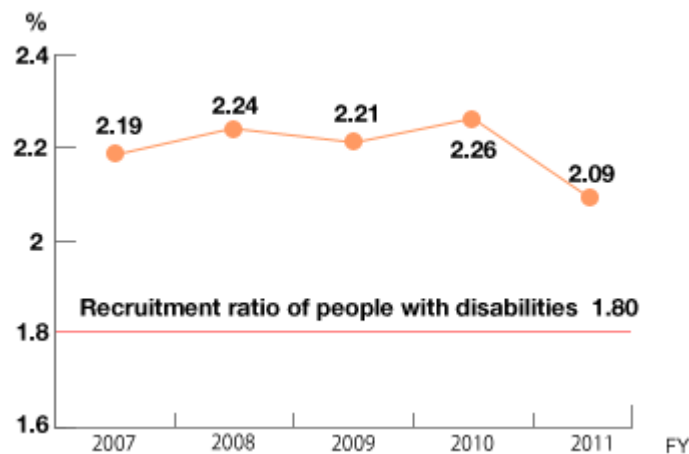
In fiscal 2011, 64 new graduates were hired, three of whom were foreigners. Recruitment activities were conducted in China (Shanghai and Dalian) and Singapore in 2011. After recruitment, and irrespective of their nationality, they are given the support to become outstanding contributors to the future for the Company, including the same rotation and training programs and the same treatment that Japanese employees receive.

Helping people with disabilities bring out their skills

Under a philosophy of normalization, in 1993 we have established a special subsidiary, Kasei Frontier Service, Inc., for helping people with disabilities take on roles with greater responsibility, developing their capabilities, and contributing to society. At the same time, we have sought to improve their working environment. The subsidiary's major scope of businesses include information processing services, general printing services and work consigned by Mitsubishi Chemical. As of June 2011, 80 people with disabilities (of a total of 122 employees) work at the Kurosaki head office and Yokkaichi branch office in ways that suit their respective skills.

The recruitment ratio of people with disabilities as of fiscal 2011 is 2.09%. Since attaining a statutory recruitment ratio of 1.80% in 2001, we have maintained a level significantly above the statutory requirement each year.

Change in recruitment ratio of people with disabilities



* Includes companies to which Mitsubishi Chemical's system of disabled person employment ratio applies

Front Runner

Filling our company with a bold spirit where people with disabilities and people with physical disabilities work in harmony

Kenichi Sato
Managing Director
Kasei Frontier Service, Inc.



Kasei Frontier Service, Inc. considers both the tangible and intangible aspects of the working environment to enable people with disabilities to work with enthusiasm. Yet we have never treated people with disabilities in a special way. This is because we hope to be a group with a bold spirit where people with disabilities and those without impairments work in harmony.

In our management, we are continually mindful of making the company an organization we can be proud of, as a team of human beings. For this purpose, this must be a company where anyone can work comfortably, in a friendly but competitive environment. On the other hand, we need to face the reality that, as we age, we experience different phenomena. Even under these circumstances, we need to develop working environments where each of our workers feel joy when they work and have a sense of participating in and contributing to society.

Front Runner

Striving to develop a pleasant workplace

Atsushi Yasuda (lower limb disability)
Planning Group GM, Planning and Coordination Department
Kasei Frontier Service, Inc.



I am in charge of the management of computer systems, internal training and business planning. At Kasei Frontier Services, Inc. we place a premium on providing customer satisfaction regarding the work we are commissioned to perform, and each employee takes on their duties with the desire to improve themselves. Moreover, in a bid to improve our abilities to a greater degree, two years ago we began to focus on internal training. We conduct group discussions on themes such as "developing an active workplace" and "adopting the mental attitude as a leader" and conduct mental health workshops to provide care from both mental and physical standpoints. Looking ahead, we will continue to enhance our training systems with the aim of improving employee motivation and work together to develop a pleasant workplace.

Utilizing skills of senior workers effectively

Mitsubishi Chemical has established the Senior Partner System for rehiring enthusiastic and able employees after they reach retirement age. In fiscal 2011, 160 (about 80%) of 192 such employees were rehired under the system. They use their skills as experienced workers and train younger workers to pass on the expertise and techniques they have acquired in their careers.

Helping employees attain a work-life balance by promoting a reduction in total working hours

The Mitsubishi Chemical Group believes that maintaining work-life balance improves productivity and motivation for both men and women. Based on this thinking, Mitsubishi Chemical has attempted to reduce total work hours so that all employees can lead healthy and satisfying daily lives.

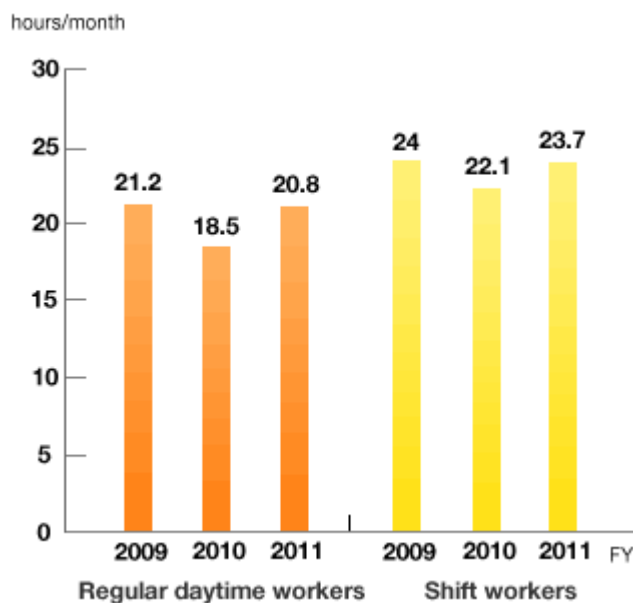
Reducing overtime and holiday work hours and eliminating excessive work hours by raising work efficiency

MOS Indexes C-2-2: Improve employee-related indicators > [Find out more](#)

Mitsubishi Chemical seeks to reduce overtime, holiday work, and excessive work hours by ensuring division managers properly understand the duties and work hours of subordinates, eliminate excess or waste in their duties, and maintain appropriate duty allocation within the workplace.

Mitsubishi Chemical also has a number of policies designed to boost work efficiency, including the simplification of in-house materials, reviewing the timing of meetings, setting a no-overtime day once a week, and turning off the lights in the head office at 8:00 p.m. on weekdays. In fiscal 2011, there was a slight increase in overtime and holiday work hours due to large-scale periodical repairs at plants, responding to the earthquake disaster and hiring more replacement staff due to an increase in the number of holidays for shift workers. However, from a long-term perspective taking past result into account, work hours are on a downward trend.

● **Change in overtime and holiday work hours (general workers)**



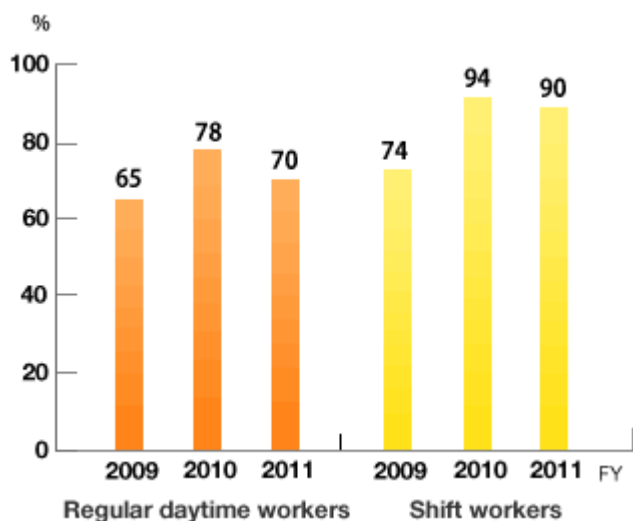
Measures for encouraging employees to take annual paid vacation

MOS Indexes C-2-2: Improve employee-related indicators > [Find out more](#)

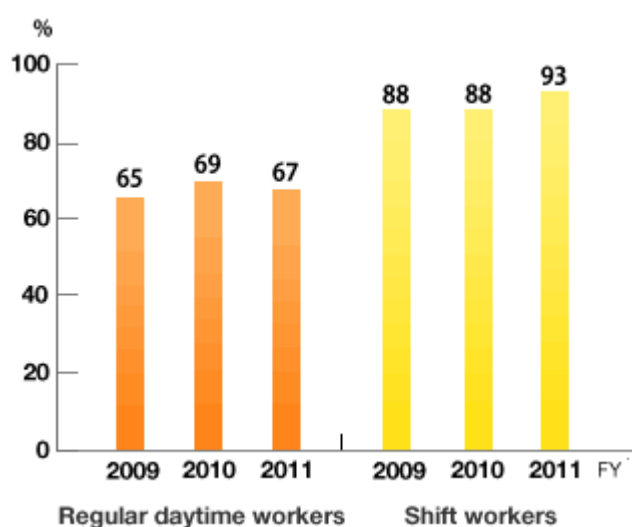
Aspiring to encourage employees to lead well-modulated daily lives with greater leisure, Mitsubishi Chemical is striving to create an environment that allows employees to take planned vacations. Examples include setting planned annual holidays (three days each year) and adopting a life support holiday system. The life support holiday system enables an employee taking two consecutive paid days off to take an additional day off once a year. This enables five consecutive days off if a weekend is included, encouraging employees to take extended holidays. Employees aged 30, 35, 40, 45, 50 and 55 are allowed three extra days off, to take even longer vacations.

We have also established volunteer holiday (five days), volunteer leave (three years), and donor holiday (in the number of necessary days) systems to assist employees doing volunteer work.

● Change in number of paid vacation days taken



● Change in the ratio of life support holiday system taken



Changes in shift work systems

MOS Indexes C-2-2: Improve employee-related indicators
C-3: Recognition of corporate trust > [Find out more](#)

At the plants of Mitsubishi Chemical, shift workers currently work in three shifts through four groups. However, a study is underway to change to three shifts and five groups or other shift systems, to allow greater leeway for shift workers, taking the nature of duties and plant features into consideration.

● Example of three-shift and five-group system

Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
A	1	1	1	1	P	3	3	3	3	P	2	2	2	2	P	P	1	1	1	1	P	3	3	3	3	P	2	2	2	2
B	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	P	3	3	3	3	P	2	2	2	2	P	P	1	1
C	P	3	3	3	3	P	2	2	2	2	P	P	1	1	1	1	D	D	D	D	D	D	D	D	D	D	D	D	D	
D	3	P	2	2	2	2	P	P	1	1	1	1	P	3	3	3	3	P	2	2	2	2	P	P	1	1	1	1	P	3
E	2	2	P	P	1	1	1	1	P	3	3	3	3	P	2	2	2	2	P	P	1	1	1	1	P	3	3	3	3	P

Legend

Shift	Work description
P	Public holidays
1	Shift 1
2	Shift 2
3	Shift 3
D	Daytime

* Employees may take consecutive days off while working the daytime shift

Mitsubishi Chemical Receives Award for Excellence at the 5th Work-Life Balance Awards 2011

In November 2011, Mitsubishi Chemical received an award for excellent at the Work-Life Balance Awards organized by the Japan Productivity Center.

Primarily, the award was in recognition of three Mitsubishi Chemical achievements: (1) working to reduce non-scheduled working hours and eliminate excessive working hours by raising business efficiency with the aim of reducing total working hours; (2) working to reduce workload by increasing the number of holidays granted to shift workers and setting up a phased transition to a five-group, three-shift structure; and (3) introducing systems for temporary suspension of transfer, declaration of desired place of work and leave for accompanying spouse's overseas assignment in 2010 to notably eliminate career uncertainty on the part of female workers.



Activities and Achievements

Striving to establish a culture of human rights through ongoing education and awareness-raising activities

MOS Indexes C-3: Recognition of corporate trust > [Find out more](#)

The Mitsubishi Chemical Group established Guidelines for the Promotion of Human Rights Awareness in 1980, and has continued to engage in human rights education and awareness-raising activities ever since. From the outset, we have tackled human rights issues to fulfill our social responsibility as a corporation. Today, we conduct training and awareness-building (including at our overseas subsidiaries) to deepen the proper understanding and recognition of human rights issues and ensure that we conduct business activities in ways that conform to the Ten Principles of the United Nations Global Compact.

Each year, we develop a timely list priority issues. In fiscal 2010, for instance, we implemented training based on a three-year plan for reconfirming and understanding the buraku issue, eradicating prejudice as well as preventing sexual, power, and other forms of harassment. In fiscal 2011, we conducted 432 group training sessions at domestic and overseas business sites aimed at all employees working within the Group, including executives and temporary staff. In total, 10,019 employees attended these sessions. Human Rights E-Training is also continuously administered using the company Intranet, and has been used by some 20,364 employees to date. The percentage of employees who have undergone group training currently stands at around 41% of all employees (members such as executives and top management undergo training on a yearly basis).

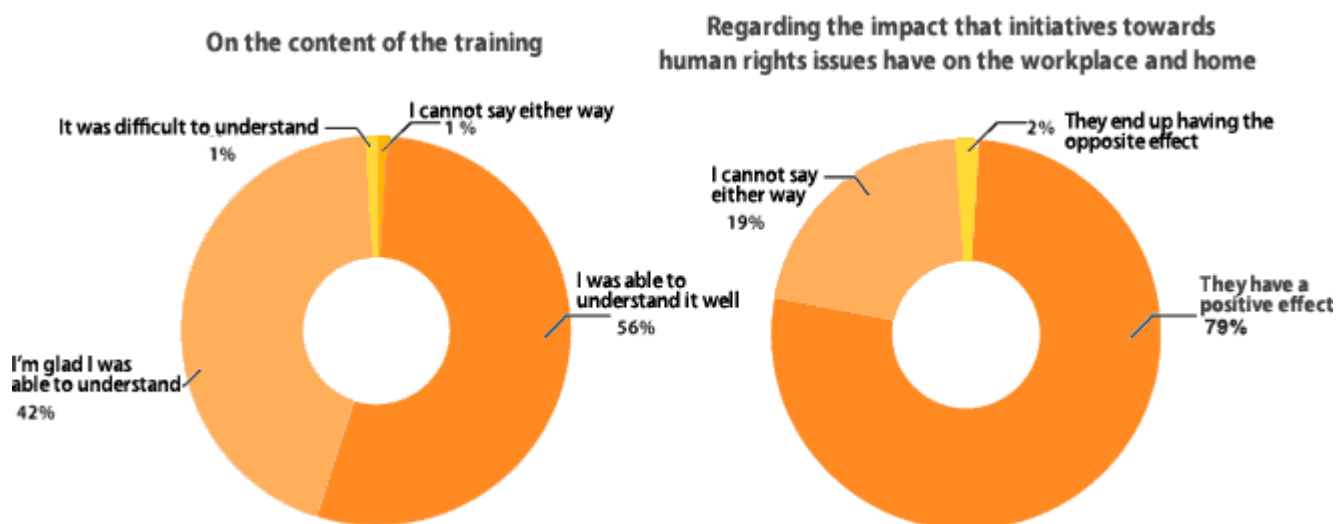
● Education and training on human rights given

FY

Training description		2009	2010	2011
Group seminars	Number of times	328	406	432
	Number of people	10,049	9,684	10,019
Human Rights E-Training	Number of times	4	4	4
	Number of people	13,930	16,742	20,364
Overseas seminars*	Countries	1	2	0
	Number of times	4	2	0

* Includes surveys on overseas human rights situations

● Results of Questionnaire after Group Training (2011)



Mitsubishi Chemical precludes any and all discrimination in its hiring and selecting employees. Even if infectious diseases such as HIV and gender identity disorder, which have been issues in recent years, are made known after joining the Company, Mitsubishi Chemical takes appropriate steps according to a manual to deal with them, taking careful note of the privacy of the persons concerned.

Guidelines for the Promotion of Human Rights Awareness (Preamble)

These Guidelines for the Promotion of Human Rights Awareness are established based on the Mitsubishi Chemical Holdings Group Corporate Ethics with the aim of recognizing the importance of human right awareness, and in the context of fulfilling our social responsibility as a corporation, broadening the proper understanding of human rights issues such as the buraku issue within the Mitsubishi Chemical Group, and developing a company that recognizes and refuses to tolerate discrimination or harassment.

Activities and Achievements

Running of employee awareness surveys

MOS Indexes C-2-2: Improve employee-related indicators > [Find out more](#)

Since fiscal 2006, the Mitsubishi Chemical Group has conducted employee awareness surveys every two or three years. In fiscal 2011, 24,545 employees, representing roughly 90% of all domestic employees and employees stationed overseas, cooperated with the survey. The survey addressed a diverse range of issues from employee satisfaction to the workplace environment, with initiatives being undertaken to reflect the feedback from employees in various management policies.

Activities and Achievements

Building productive labor-management relations

Labor unions exist at the head office (as well as branch offices) and production sites at Kurosaki, Yokkaichi, Naoetsu, Mizushima, Sakaide, Kashima, Nagoya, Tsukuba, and Odawara of Mitsubishi Chemical, which together form the Mitsubishi Chemical Labor Union Federation. The Federation and labor unions do not participate in senior bodies, but pursue a policy of working together with the company. The emphasis is placed on maintaining and strengthening sound labor-management relations, and the two parties meet regularly at biannual management and labor committee meetings.

Some Mitsubishi Chemical Group companies have organized labor unions, and these have all maintained productive labor-management relations.

Front Runner

Mitsubishi Chemical Labor Unions Federation

Yasuharu Kukino
Chairman
Mitsubishi Chemical Labor Unions Federation



The life force of Mitsubishi Chemical undoubtedly lies with the people, and for this reason we believe labor-management relations start with business administration that fully brings out human ability and engenders trust in management. With the aim of further strengthening labor-management relations, our Federation will perform its roles appropriately by conducting activities for linking the frontlines of management and worksites, as management's partner and checking function, and by candidly exchanging opinions at Management Council Meetings and on other occasions.

I am also fully aware that the overarching basis for the Mitsubishi Chemical Group's ongoing prosperity lies in safety and compliance. Our Federation will redouble its efforts to share information and promote exchanges with other labor unions through the Mitsubishi Group Council (Mitsubishi Chemical Holdings Group Labor Union Council) and other organizations, thereby deepening ties among labor unions that gather under the Group.

Together with Stakeholders

Corporate Citizenship Activities

Policy

Basic Concept

As a member of the Mitsubishi Chemical Holdings (MCHC) Group, Mitsubishi Chemical pursues corporate citizenship activities consistent with the areas covered by Group-designated activities, including the Mitsubishi Chemical Holdings Corporate Citizenship Activities Policy, fostering the development of the next generation, communicating with local communities and disaster support.

MCHC Group Corporate Citizenship Activities Policy

As good corporate citizens, the MCHC Group has been striving for realizing *KAITEKI* with better understanding the culture and customs in communities and countries where we operate. Furthermore, we have been active in responding to real needs and demands of the communities through various manner including our business activities where we locating.

[Approach]

As a whole we shall:

- Conduct corporate citizenship activities in communities and countries where we operate from a view point of Sustainability, Health, and Comfort.
- Deepen our understanding on social needs through communication with various stakeholders and other organizations.
- Go along with all employees for the activities and encourage their positive participation.
- Support employees for their volunteer activities.

Disaster Support

Activities in Supports of the Great East Japan Earthquake

MOS Index C-3: Recognition of corporate trust >[Find out more](#)

From immediately after the Great East Japan Earthquake that struck in March 2011, the Mitsubishi Chemical Holdings (MCHC) Group began to provide donations, and for its part, MCHC conducted support activities aimed at the disaster-affected regions, victims and the personnel engaged in recovery work. These activities included the supply of portable solar-powered battery chargers, fundraising activities run by employees, and the provision of MCC-owned land for temporary housing.

As a part of our long-term support activities, we have also helped MCHC Group employees engage in volunteer work. This support was provided in the form of having Group employees take part in activities run by Peace Winds Japan (PWJ), a non-profit organization. 120 employees from Mitsubishi Chemical took part in the activities. Operating in Kesenuma, Rikuzentakata, Ofunato and Kamaishi, volunteers were involved in a wide range of work in each area, from the delivery of relief supplies to providing assistance to those relocating to temporary housing, activities to help reestablish the local fishing industry and interviews to ascertain the needs of those affected. Feedback from participants included, "it was easy to take part thanks to the support from the company," "I felt a difference between the media coverage and the situation in the disaster-affected areas," and "we were able to take part in the activities while communicating with employees from other operating companies in the MCHC Group."

In addition, Group company Ryoka Systems Inc. worked on its specialties in Tokyo, namely system design and input work, and also supported the creation of a disaster recovery report for the Minamisanriku Town Utatsu Fishing Cooperative. A Ryoka Systems employee noted that "we heard reports from the NPO that 'the people in the fishing cooperative were having an easier time of things and were pleased.' As well as making me feel great about participating, this makes me want to continue to support the disaster-affected areas in the future, however small my contributions may be."

The MCHC Group has also given consideration to its support activities to ensure it can offer support to the areas affected by the Great East Japan Earthquake on an ongoing, Group-wide basis in the future. As a part of these efforts, the MCHC Group invited the PWJ and held an explanatory session entitled "Results of Volunteer Activities to Date and Future Activities." Around 60 people took part on the day, receiving an explanation of the results of the volunteer activities to date and engaging in an exchange of ideas regarding future support activities. Looking ahead, Mitsubishi Chemical will continue to tackle support activities while maintaining communication with the people in the disaster-affected areas, NPOs and other groups.



Employees volunteering in an area affected by the Great East Japan Earthquake



Volunteer Activities Explanatory Session

Fostering the Development of the Next Generation

Travelling Science Class

MOS Indexes C-3: Recognition of corporate trust > [Find out more](#)

As an activity to help develop the science and technology-based human resources of the future, each MCHC Group location runs a science class with the aim of sparking an interest in chemistry and science among the children who will lead the next generation.

Traveling Science Class (Kashima Plant)

To forge communications with the local community and spark an interest in chemistry and science among the children who will lead the next generation through fun chemistry experiments, the Kashima Plant has run a traveling science class for elementary school fifth graders in Kamisu City, Ibaraki, where the plant is located, since 2000.



For fiscal 2011, chemistry experiments under the theme "Air is Powerful" were held at four local elementary schools, beginning in January 2012. Students got the chance to experience the power of air in ways rarely seen. In one experiment, students' homeroom teachers were lifted up simply by blowing air into an air jack made from plastic bags and straws. The students seemed enchanted by the mysterious chemical phenomena and enthusiastically took part in the experiments together with the Mitsubishi Chemical and R&D Center employees who served as instructors.

Seishin Gakuen Seminars (Kashima Plant)

Seishin Gakuen High School in Kamisu City, Ibaraki, which lies adjacent to the Kashima Plant, has been designated by the Ministry of Education, Science, Sports and Culture as a "Super Science School" that promotes the development of science and technology-based human resources. As a part of these efforts, in December 2011 four local companies including Mitsubishi Chemical gave special lectures during Saturday seminars held by the school.



Under the theme "The Mysterious Mineral Zeolite," we combined experiments on ion conversion and acid catalyst effects with introductions to the properties of zeolite and examples of its utilization for 50 third-year junior high school students and first-year high school students. The students actively participated in the seminar, touching the molecule models and zeolite samples that were passed around with serious looks in their eyes, and eagerly asking questions even after the end of the lecture.

2011 Youngster's Science Festival in Kurashiki (Mizushima Plant)

In November 2011, Mitsubishi Chemical Mizushima Plant took part in the 2011 Youngster's Science Festival in Kurashiki. The festival is a science education event held on a nationwide scale with the aim of giving youth real-life experience with the appeal of science.

On the day, we worked with children on experiments to illuminate LEDs with the color of choice and produce a slime using laundry starch. The participating children had glints of wonder in their eyes at the LEDs that changed to whatever color they wished by operating a simple device, and gasped in surprise at the sight of the laundry starch turning into slime. Mitsubishi Chemical hopes to continue to foster interest in chemistry among children through such experiments.



Science classes during local festival in Kurosaki (Kurosaki Plant)

In November 2011, Mitsubishi Chemical held a chemistry class during the 23rd Chikuzen Kurosaki Town Festival in the Kurosaki area centered in the shopping district in front of Kurosaki Station in Kitakyushu City, Fukuoka Prefecture. This is the eighth time Mitsubishi Chemical has held the science classes, which is held each year.

For fiscal 2011, members that mainly comprised R&D Center employees served as instructors and held experiments to make air cannons out of PET bottles and an aromatic substance from Aqua Pearl (Super-absorbent polymer manufactured by San-Dia Polymers, Ltd.).

Many children attended the classes and displayed a keen interest as they set about making the products of the experiments. The target shooting game that used the air cannons they had made was also popular with the children, making the classes a huge success. Through these kinds of activities, we hope to convey the fun of chemistry to children as well as deepen their interest in the field.



Mitsubishi Chemical Junior Designer Award (MCJDA)

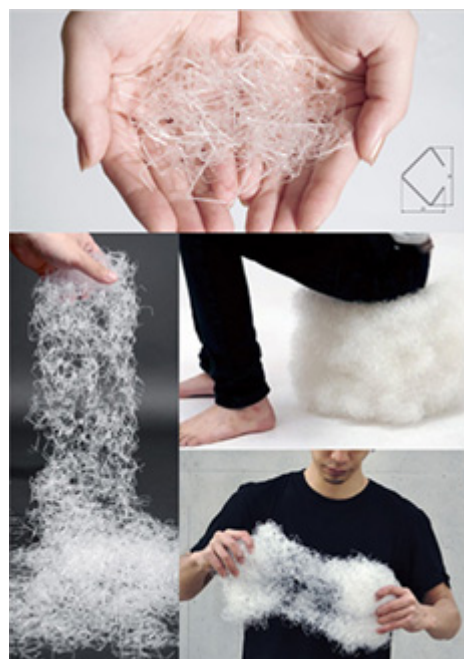
Mitsubishi Chemical has supported the Mitsubishi Chemical Junior Designer Award (MCJDA) [Japanese only] since fiscal 2006, for supporting young designers and promoting design. MCJDA is the only Award in Japan for graduation projects of students aspiring to be leading designers, in all areas of design including product, graphic, fashion, multimedia, packaging and design studies. Through MCJDA, we strive to create opportunities to find promising young designers and introduce them to the public. We usually issue a call for works in January, and announce the award winners and exhibit the winner's project in the fall.

In fiscal 2011, the 11th* awards, 296 works were sent in, the largest number yet. Of these, 14 won award for their uniqueness, representing a great variety.

* This is the sixth awarding since the title changed to MCJDA because of changes in supporting companies



2011 MCJDA Awarding Ceremony



formless shape (by Toshiro Mori)
awarded the 2011 MCJDA Grand Prix

Communicating with Local Communities

Coordination with Local Public Interest Corporations Incorporated Foundation

Mitsubishi Chemical (Kurosaki Plant) is a member of the Kitakyushu International Techno-cooperative Association (KITA). In this capacity, we provide the space opportunities and develop the curricula to transfer technological expertise to developing countries needed for international training in Kitakyushu City, Fukuoka, and also take part in activities to help promote international cooperation in a bid to achieve personal exchanges and technology transfers. Mitsubishi Chemical has participated in these activities since KITA was first established in 1980 and remained involved with the running of KITA, with successive Kurosaki Plant general managers having served as presidents directors or councilors of the association to date.

For fiscal 2011, a total of 85 trainees from 24 countries were accepted into eleven courses held for 23 days. The training mainly consisted of courses on managing and cleaning air pollution and industrial wastewater, equipment management technologies and activities to prevent industrial accidents, and also included actual plant tours inside the Kurosaki Plant premises.

The trainees are interested in learning about the environmental conservation technologies employed by Japan, who went from being one of the world's major polluters to achieving environmental improvements in a short time. For their part, the team of instructors conducts the training each year with the hope that the training will prove useful to the trainees after they return to their own countries.

There are also many opportunities for exchange between employees and trainees during the training, and this is also useful in the education of employees. Mitsubishi Chemical Kurosaki Plant will continue to play an active part in these activities.



Training in progress




Recreation time ("kendo")

About Mitsubishi Chemical Corporation

Mitsubishi Chemical Corporation was incorporated on October 1, 1994 through the merger of Mitsubishi Kasei Corporation with Mitsubishi Petrochemical Co., Ltd. The company's roots trace back to Nippon Tar Industries Corporation, established on a fifty-fifty basis capital contribution by Mitsubishi Mining Company, Ltd. and Asahi Glass Co., Ltd. on August 1, 1934. Today, Mitsubishi Chemical Corporation and its 225 Group companies conduct business across the three domains of performance products, healthcare and industrial materials.

Corporate data of Mitsubishi Chemical Corporation (May 2012)

Mitsubishi Chemical Corporation

Establishment	June 1, 1950 (incorporated on October 1, 1994)
Head office	Palace Building, 1-1, Marunouchi 1-Chome, Chiyoda-ku, Tokyo
President & CEO	Hiroaki Ishizuka
Paid-in capital	50,000 million yen
Listing	Unlisted
URL	http://www.m-kagaku.co.jp/index_en.htm 

Group Overview (Fiscal year ended March 2012)

Mitsubishi Chemical Corporation


Subsidiaries	162
Affiliates	47
(Total)	209
Number of employees	5,828 (non-consolidated)
	9,387 (MCC employees)
	27,689 (consolidated)

Business Domains and Main Products

Electronics Applications & Designed Materials

We provide increasingly diverse markets and society with a wide range of solutions, from materials to devices, by utilizing chemistry-based featured technology clusters.



[>Details](#)

<p>White LED lighting / supplies</p> <p>White closely resembling natural light achieved with proprietary technology</p>		<p>Display Materials and Related Products</p> <p>Offering a vast range of solutions including materials and components for LCD displays</p>	
<p>Recording media</p> <p>No. 1 market share of the recordable CD/DVD/BD sold worldwide by brand * *(according to the SCCG/JRIA data)</p>		<p>Performance Film</p> <p>Functions developed for specific applications</p>	
<p>Semiconductor-related Products and Services</p> <p>Providing services such as wafer reclamation and precision cleaning together with materials such as high-purity process chemicals</p>		<p>Lithium ion battery materials</p> <p>Only manufacturer providing the four core materials</p>	
<p>Specialty chemicals</p> <p>Materials that enable a variety of added functions</p>		<p>Food ingredients</p> <p>Range of products based on natural materials</p>	
<p>Ion exchange resins</p> <p>Supporting separation and refinement solutions for customers with a wide range of offerings, including pure water production and the purification of pharmaceuticals and foods</p>			

Health care

From clinical testing to diagnosis and drug-discovery support, we engage in a wide range of healthcare-related businesses to help people lead healthy and fulfilling lives.

[>Details](#)

<p>Active pharmaceutical ingredients / pharmaceutical intermediates</p> <p>Using cutting-edge, organic synthesis technology to provide fine chemicals</p>		<p>Food and Hygiene Testing</p> <p>Support to ensure all-round "food safety" from the raw ingredients that go into food to environmental hygiene</p>	
<p>Doping testing</p> <p>Japan's only WADA (World Anti-Doping Agency)-accredited doping testing institute</p>		<p>Diagnostic reagents and instruments/clinical testing</p> <p>From clinical testing to installation of diagnostic support systems</p>	

Chemicals & Polymers

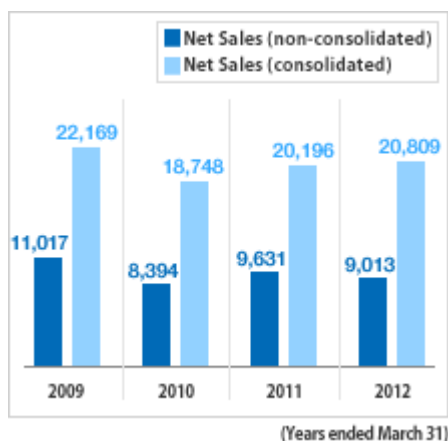
With energy and resource-saving materials design, optimum process design and ultra-stable plant operation positioned as our core technologies, we seek to enhance our international competitiveness while providing the chemicals that support sustainable and diverse social infrastructure.

[>Details](#)

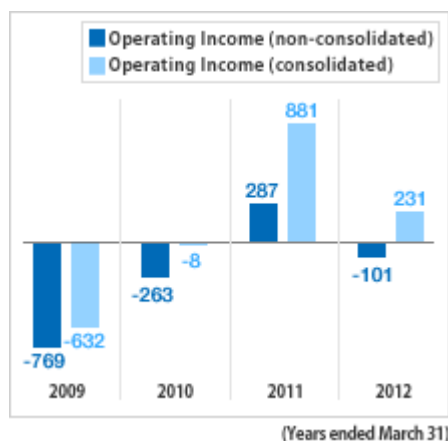
<p>High performance graphite World-class quality through integrated production</p>		<p>Coke Crafted technologies supporting core industries World-class production capacity as a merchant coke producer</p>	
<p>Terephthalic Acid Expanding into growth markets by establishing manufacturing and sales bases in Asia Top share in Asia, No.2 in global</p>		<p>C4 chemicals Responding to the need for high value-added chemicals for applications across an array of industries including high-performance fiber</p>	
<p>Performance polymers Developing functional resins featuring elasticity, durability, and heat resistance</p>		<p>PHL / BPA / PC Developing with low environmental impact manufacturing process and global partnership Top PC share in Asia</p>	
<p>Polypropylene A lineup of high quality, high function polypropylene products Top share for automobile in Japan</p>		<p>PET Resin Having established a consistent product chain from the raw material terephthalic acid to resins and films Catering to all manner of needs with a sophisticated design, development and manufacturing techniques</p>	

Financial Highlights (non-consolidated / consolidated)

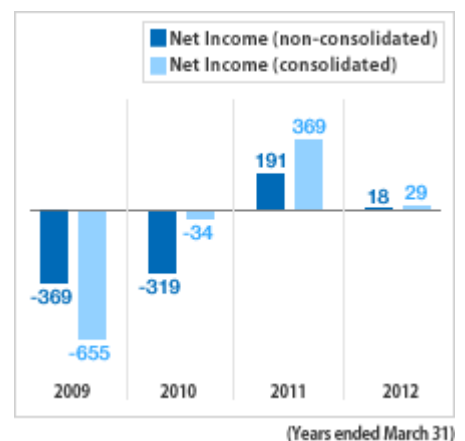
Change in Net Sales
(units: 100 million yen)



Change in Operating Income
(units: 100 million yen)

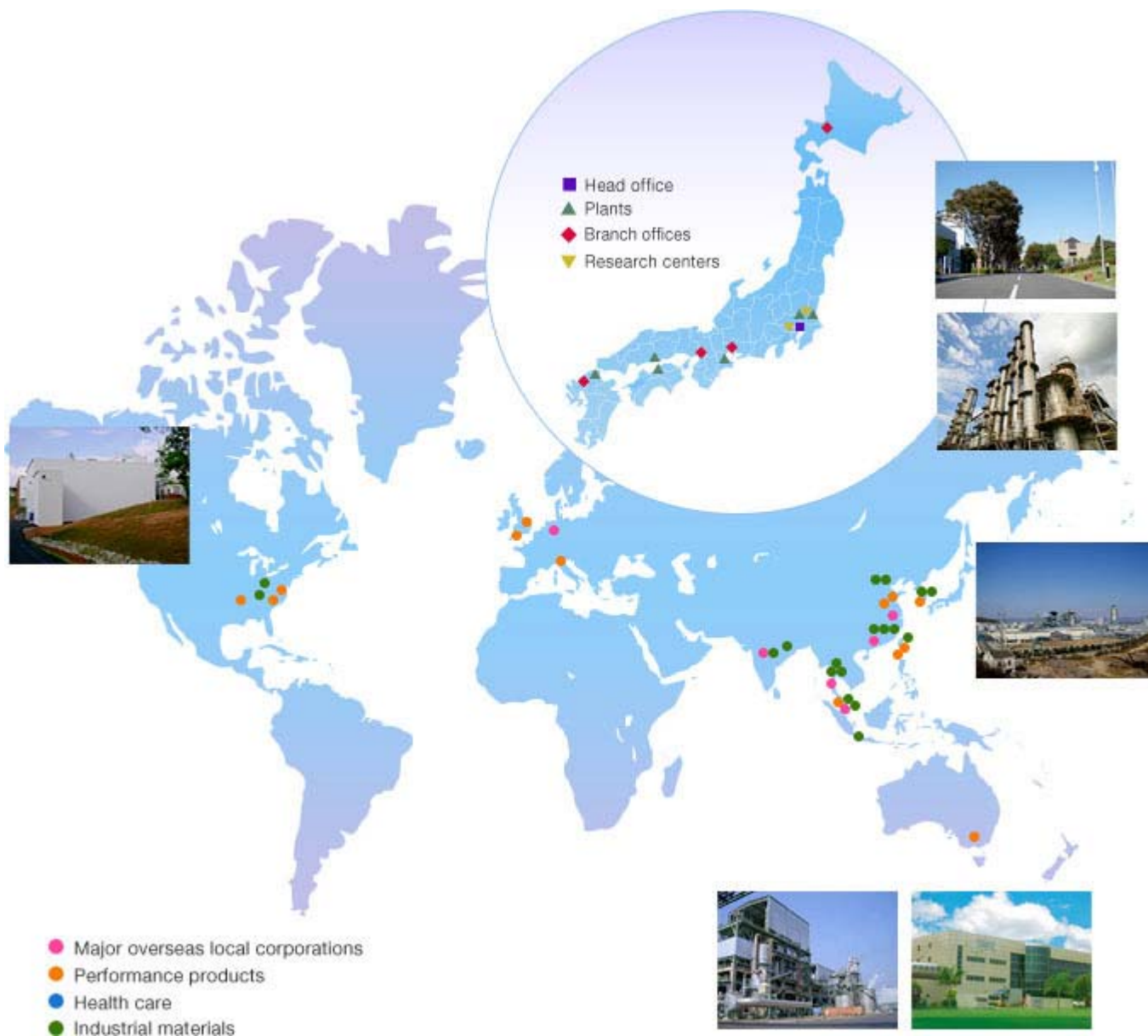


Change in Net Income
(units: 100 million yen)



Global network

The Mitsubishi Chemical Holdings Corporation (MHCH) Group maintains a global network of businesses comprising six major overseas local corporations, 13 Group companies in the performance products domain, and 18 Group companies in the industrial materials domain. The MHCH Group aims for these global networks account for 45% of overseas net sales by fiscal 2015.



Third-Party Opinion

Our response to the third-party opinions presented in last year's Report

Our responses to the opinions sent in by Mr. Hideto Kawakita and Ms. Sachiko Kishimoto* to CSR Report 2011 are summarized below, as indicated in this year's CSR Report.

Outline of the matters pointed out in CSR Report 2011	Response by Mitsubishi Chemical
<p>Concerning the MOS indexes: I hope that the MOS indexes and progress in related measures will be promptly disclosed. (Mr. Kawakita)</p>	<p>We disclosed the MOS indexes of Mitsubishi Chemical Holdings and the measures implemented by the Mitsubishi Chemical Group in 2011 and issues for 2012 for realizing the indexes. We also disclosed the results of MOS index monitoring in 2011 and issues and plans for 2012 in the KAITEKI Report of Mitsubishi Chemical Holdings.</p>
<p>Concerning improvement of the work environment for employees: At each of the Group companies, measures have been implemented for raising the ratio of workers taking nursing care leave and working under the shorter working hour systems. At your company as well, I strongly hope that examples of users of nursing care leave and shorter working hour systems will be made widely known. (Mr. Kawakita)</p>	<p>At Mitsubishi Chemical, we strived to thoroughly make the nursing care leave and shorter working hour systems known among workers. As a result, three people used the shorter working hour system in 2011 (one in 2010) and two took nursing care leave (two in 2010). We will continue striving to make the systems known more thoroughly, and disseminate them to other Mitsubishi Chemical Group companies as well.</p>
<p>Concerning energy conservation activities for cutting greenhouse gases: Measures related to production technologies need to be further improved in order to maximize the reduction effects of the scheduled facility improvements, and in view of progress in energy conservation projects at petrochemical plants. (Mr. Kawakita)</p>	<p>Various measures have been attempted for energy conservation at our establishments' production sites. Optimization of the overall steam balance for the establishments, improved thermal recovery via overhauling processes, and other measures were applied to the large-scale petrochemical plants at our Mizushima, Kashima and Yokkaichi Plants. As a result, there was a reduction of energy consumption equating to about 40,000 tons of carbon dioxide. We will strive to even further conserve energy in 2012.</p>
<p>Concerning activities for fostering safety culture: Activities for fostering safety culture as well as visualization and expansion of measures need to be promoted further, especially regarding information sharing and collaboration with partner companies during times of regular repair work. (Mr. Kawakita)</p>	<p>At each of our establishments, a work safety and health cooperation organization has been established for promoting safety activities in cooperation with partner companies engaged in different work and tasks. Occasions have been offered for regular liaison meetings and exchanges of opinions. During 2011, discussions were held at Mizushima Plant of the Mitsubishi Chemical concerning education for first-year workers at the site and for solving current overall issues at worksites; and diverse opinions were</p>

expressed. Those in charge at Mitsubishi Chemical and our partner companies will study issues mentioned in the meetings that require special attention, and results will be reported in the next year's meeting.

Concerning improvement of diversity in overall Group human resources, and their utilization: Looking 10 years ahead for the entire Group, the following measures are expected to be promoted: formulating a global human resources portfolio beyond the framework of divisions and corporations; appointing a supervisor (global human resources officer) to promote global recruitment, human resource cultivation, exchanges and other matters through all possible opportunities; and establishing recruitment and fostering systems that enable the Group to proactively utilize its diverse human resources, as a truly globalized business entity. (Mr. Kawakita)

We regard to dealing with globalization as a vital issue. The [conventional training programs](#) have been improved and new recruitment channels at overseas universities have been developed (in China and Singapore) for [recruiting foreign staff](#). Two new foreign graduates were hired in 2012. We are also developing a global human resources database for the entire Mitsubishi Chemical Holdings Group (scheduled to enter into service in the fall of 2013).

Concerning occupational safety: I am aware that your company has strengthened its measures for occupational safety. However, the loss time injury frequency has remained high in recent years with regard to the target. One of the causes cited is the decline in response capabilities at worksites resulting from retirement of many senior workers. The trend has been observed not only in your company but in the entire chemical industry. I do, however, look forward to further improvement at your company. (Ms. Kishimoto)

To [boost response capabilities at worksites](#), sensory training programs for predicting possible hazards were offered to operators (1,600 employees of the seven major establishments and about 1,000 employees of Group companies participated), and near-miss prevention activities have been strengthened. As a result, the targeted 0.2 or below was attained for loss time injury frequency in 2011. We will continue with the efforts in 2012. At the Yokkaichi Plant, [business process standardization](#) (in which inventory of business processes is taken and clearly stated) has been underway for raising response capabilities at worksites.

Concerning living side by side with regional communities: I suggest that your company collaborate with NPOs and NGOs for further promoting volunteer activities by employees. (Ms. Kishimoto)

Regarding [volunteer activities by our employees conducted in areas stricken by the Great East Japan Earthquake](#), we explained our systems and activities to those in charge at the NPO with which we cooperate, and discussed necessary measures for providing even better support for those affected.

Concerning living side by side with regional communities: I suggest that your company publicize the plans and results of monitoring on environmental data, soil, groundwater and other matters at each of your establishments. This would give people in regional communities reassurance concerning safety and security. (Ms. Kishimoto)

We have [regularly announced](#) the environmental data from the Kurosaki, Mizushima, Yokkaichi, Kashima, Sakaide and Tsukuba Plants and Yokohama Research Center, as RC reports of the respective establishments. Our domestic and overseas Group companies have also regularly announced environmental data in places such as RC reports. We will strive to even more extensively disclose information that people in regional communities wish to know.

Hideto Kawakita

CEO International Institute for Human, Organization and the Earth (IIHOE)

IIHOE is a non-profit organization (NPO) established in 1994 for pursuing democratic and harmonious development for all life on Earth. The major scope of activities involves support for management of citizens' groups and welfare workers, as well as support for CSR activities of major companies.

▶ <http://blog.canpan.info/iihoe/> (Japanese only)



These opinions were written based on statements made on the website and interviews with human resources, general affairs and CSR personnel of Mitsubishi Chemical.

Among its CSR measures, reduction of environmental burden has progressed well based on PDCA (management cycle), and other broad-reaching matters have also begun to progress.

Points to be highly regarded

- As a member of the Mitsubishi Chemical Holdings Group, Mitsubishi Chemical Corporation (MCC) has set the [MOS indexes](#) and targets independently at eight plants, three branch offices, five business divisions, four corporate divisions and 12 affiliated companies, for the three items of sustainability, health and comfort, and has begun taking action in this area. We hope the targets, actual results, issues and countermeasures for each of the indexes of the above organizations and companies will be disclosed promptly and in detail.
- Concerning [improvement of the work environment for employees](#), the ratio of users of maternity, childcare and nursing care leave and shorter working hour systems among MCC employees has reached 3.53%. We continuously and strongly expect that in each of your Group companies as well, efforts will be taken at a similar level and examples of users of nursing care leave and shorter working hour systems will be disclosed in-house with an even wider scope.

Matters for which measures have progressed but further efforts are expected

- Concerning the [Mitsubishi Chemical Holdings Group Corporate Ethics and Mitsubishi Chemical Holdings Group Compliance Code of Conduct](#), it is highly regarded that these policies have been stated clearly for the Group. At the same time, we expect that the policies will be translated into various languages with the help of workers of overseas bases. Through their active involvement this will promote understanding and practice by employees who are native speakers of these languages. In this way, we hope the significance of the philosophy will be shared and the foundation will be laid for self-initiated practice.
- Concerning [risk management that includes compliance with laws](#), it is highly regarded that your company has taken concerted efforts to deal with compliance violations, country-related risks involved in overseas business development, and transport of harmful and hazardous materials, and that specific actions have been taken for building the risk management networks in Asia and eliminating long-distance transport of high-risk hazardous materials, in accordance with the list of risks that would seriously affect the Group. From here forward, we expect that the series of these efforts from risk assessment to identification of priority items and formulation of countermeasures will be shared among an even greater number of employees.
- Concerning [reduction of the environmental burden](#), it is highly regarded that despite the increase in nitrogen oxide (NOx) emissions that accompanied the operation of power generation facilities in dealing with the electricity shortage caused by the accident at Fukushima Daiichi Nuclear Power Plant of TEPCO, and the worsening of specific energy consumption accompanying the decline in production resulting from the long-term stoppage of the Kashima Plant following the Great East Japan Earthquake, the aggravation was not as serious as in 2008 and VOC emissions were reduced. This gives evidence that facility improvement and innovations in production technologies are underway. In the future, further improvement in total and specific energy consumption is expected, taking into consideration large-scale regular repair work, measures to deal with economic situations and other foreseeable circumstances.

- Concerning the [revision and comprehensive implementation of safety measures](#) triggered by the fire at the Kashima Plant in December 2007, it is highly regarded that activities for fostering safety culture have been underway. At the same time, sharing and collaborating with partner companies at an expanded scale is expected regarding joint drills and responses to disasters, taking consideration of overlapping emergencies that could occur at a time of regular repair work, such as a large-scale earthquake, typhoon or blackout.
- Concerning [approaches to business partners](#), it is highly regarded that briefings were held with major suppliers and a self-judging questionnaire was conducted with 170 suppliers whose share in the purchased amount has reached 90%. From here forward, to develop the base for the suppliers' environment, health, human rights and safety (EHS) from a medium-term perspective, a detailed survey should be conducted on how much has been achieved for which issues, requesting that the respondents clearly indicate the evidence for their responses, in order to share issues with the business partners and establish a system that enables proactive improvement.
- Concerning [strengthening of human resource diversity and utilization](#) for the entire Group, further promotion of globalization is essential for future business development. Looking at the next 10 years for the Group, a global human resources portfolio should be formulated beyond the framework of divisions and corporations, a supervisor (global human resources officer) should be appointed to promote recruitment, human resources should be cultivated and exchanged through all possible opportunities, and systems for recruitment and training should be developed that allow the Group to proactively utilize its diverse human resources, as a truly global business entity.

川北秀人

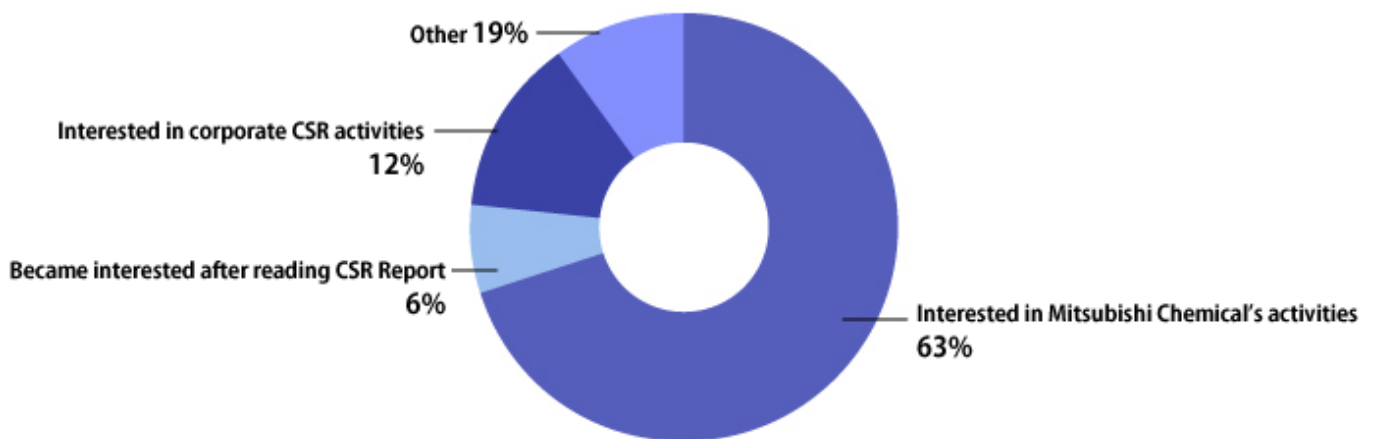
Opinions on CSR Report 2011

Thank you for your valuable opinions and comments on CSR Report 2011. We will refer to your feedback in our activities geared toward making *KAITEKI* a reality.

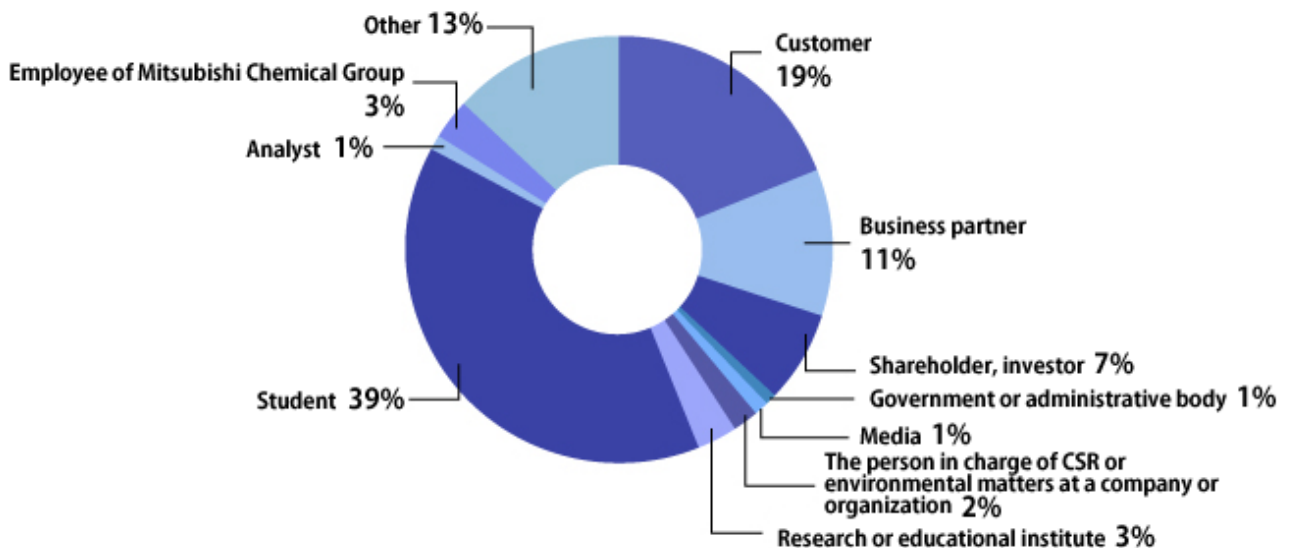
Below, please find the aggregated results of responses to the questionnaire.

Aggregate results of questionnaire on CSR Report 2011

Q1: What was your reason for visiting the website?



Q2: What is the position of the person responding to the questionnaire?



Opinions and comments on CSR Report 2011 (excerpts)

- I would really like you to commercialize organic photovoltaic generation and bring it to market in the current fiscal year rather than 2015. I think it is a fantastic product. About ten years ago I read a news story that said photovoltaic generation would come in the form of thin, foldable sheets, and I've been thinking that I would like to install in my own house when the time comes. I delighted that this news has now become a reality. Where I live in Matsumoto City, the minimum temperature drops to around minus eight degrees, and while there's no snow and we have continuous clear days, the maximum temperature during the day is between four and five degrees. This could also be applied to plastic greenhouses. Since there is a high demand for this technology, I hope you can find a way to set prices low so that everyone can take advantage of it. (Customer)
- I'd like to install solar panels in my own home as well, but the only place this is possible is on the roof of the balcony, but I can't mount regular panels because they're too heavy. I'm looking forward to lighter panels from Mitsubishi Chemical. (Customer)
- I want us to work together to achieve *KAITEKI*. (Employee)
- I would like you to think more seriously about how to go about providing unique products to users quickly. To date, photovoltaic cells have been too heavy and unwieldy for regular applications. On that point, painted-on organic photovoltaics are intriguing. I suggest you consider the practical utility of the technology, start by coming out with the technology, and quickly gather opinions and ideas from around the world. (Research / Educational Institution)
- A paintable version of organic photovoltaic cells is revolutionary. I think this shows the advanced level of Japan's technological capabilities. As I think this technology would also be widely accepted in Europe, where environmental awareness is strong, I hope you actively advertise it at exhibitions and elsewhere. (Government / Administration-related)
- I hope you quickly release paintable thin-film photovoltaic cells. Even if you don't focus on achieving conversion efficiency of 15% if it is cost effective I think that is enough. (Person in charge of Corporate or Group CSR/Environment)
- I have great hopes for organic thin-film photovoltaic cells. If you are able to quickly make the technology practical for households, and if people are able to install the cells in small volumes where there is little space, I think it will be the first step to solving our energy problems in the future. Do your best! (Other)