三菱化学

# CSR Report 2016

## Corporate Social Responsibility Report

PDF Ver.


THE KAITEKI COMPANY Mitsubishi Chemical Holdings Group

Responsible Care

# INDEX



## Editorial Policy

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

CSR Report 2016 provides reporting on our activities based on Sustainability, Health and Comfort, the criteria by which we judge our business activities aimed at realizing *KAITEKI*.

In addition, reporting is provided on measures that form the foundation of those activities, in 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.

## 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 2016 (PDF version so the entire CSR information can be downloaded) and the CSR Report 2016 Data Section that compiles detailed data on safety, the environment and society.

### Reporting period

Fiscal 2015 (April 2015 to March 2016)
* Part of the contents also relates to fiscal 2016

### 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 Corporation (including Group companies located on the same premises of Mitsubishi Chemical Corporation 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

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### Disclaimer

This report contains not only past and present facts about the Mitsubishi Chemical Corporation 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.

# Message from the CEO

## With a core of chemical technologies, we contribute to resolving environmental and social issues through the realization of *KAITEKI*.

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

Our society today is confronting global issues, including climate change, environmental concerns, population growth and progression of the aging society in industrialized countries, coupled with an over-dependence on petrochemical resources and uneven distribution of energy, food and water. We have now reached a major turning point.

As an operating company of the Mitsubishi Chemical Holdings Group (MCHC Group), Mitsubishi Chemical Corporation (MCC) seeks to solve these social issues and contribute to the sustained growth of people, society, and the Earth, in other words, the realization of *KAITEKI*. It is therefore pushing forward initiatives in each of the Performance Products and Industrial Materials domains based on a core of "Chemical Technologies" that have been nurtured over many years.

＊ *KAITEKI* is an original concept proposed by the MCHC Group that signifies "a sustainable condition which is comfortable for people, society and the Earth, transcending time and generations."

## Progress of business activities aimed at the realization of *KAITEKI*

The MCC Group sets Sustainability, Health and Comfort as the decision criteria for its corporate activities, and having established contribution to the realization of *KAITEKI* through its corporate activities as a social responsibility, it is developing a diverse range of businesses globally.

*APTSIS 15*, the previous medium-term management plan completed in fiscal 2015 after covering the period from April 2011 to March 2016, identified organic photovoltaic (OPV) modules and materials, organic photo semi-conductors, agribusiness solutions, and sustainable resources as next-generation growth businesses, and LED lighting and materials and lithium-ion battery materials as growth businesses. Each of these businesses is consistent with the three criteria of its corporate activities, Sustainability, Health and Comfort, and is expected to contribute to solving social issues as well as driving the MCC Group's sustainable development. In each of these businesses, particular emphasis has been placed on further honing key materials and technological capabilities, the core strengths of the MCC Group. At the same time, we channeled our energies toward swiftly securing stable profits in each

business while undertaking proper and appropriate investments and entering into collaborations with best-fit partners. However, in fiscal 2015, there were delays in launching some businesses, which will continue to be a challenge under the *APTSIS 20* medium-term management plan started from fiscal 2016. Under these circumstances, lithium-ion battery materials are likely to contribute to expanding earnings against a background of firm demand for automotive use, while for sustainable resources, the bio-based engineering plastic DURABIO™ has become more widely adopted in automotive interiors, and also in smartphone panels, accumulating steady results.

Growth businesses, such as specialty chemicals, polyvinyl alcohol/ethylene-vinyl alcohol copolymers and performance polymers, are widely used across a broad range of industries and are aiming for further profit. And cash-generating businesses, such as food ingredients and carbon products, are responsible for creating a stable profit base. Both of the above businesses were steady as a whole. In the specialty chemicals, as seen in the example of integrating Group companies' emulsion businesses to form a new subsidiary to best generate the MCC Group synergies, we will continue to shift to high-performance and high value-added products and further improve our strength of differentiation and competitiveness. In performance chemicals, each of the businesses is performing well, including new Group addition Eisai Food & Chemical Co., Ltd., but due to the impact of the Kumamoto Earthquakes that struck in April 2016, operations were halted at the Kumamoto plants of the Nippon Synthetic Chemical Industry Co., Ltd. and Shinryo Corporation. Since then, restoration work on production facilities has been completed and operations are gradually resuming, and we are devoting our full capabilities to the safe restoration of all production facilities and continued stable operations.

Meanwhile, with the objective of continuing stable management, we have attempted to shift to a corporate structure that is resilient when facing complex and cyclical changes highly dependent on the external environment. The key initiative for this shift is the restructuring of the petrochemicals business. We discontinued one ethylene production facility at the Kashima Plant in May 2014, and as planned are functionalizing only one ethylene production facility with Asahi Kasei Corporation in the Mizushima area from April 2016. Production of polyolefin was optimized, which reduced fixed costs and realized a shift to highly functional products. In the terephthalic acid business, meanwhile, we continued to improve the sales terms and thoroughly reduce costs at overseas facilities, but due to excessive capital investment in China, the difficult climate will continue and we will need to make fundamental decisions during fiscal 2016.

## Manufacturing based on safety and reliability is fundamental to a company to survive

The MCC Group places the utmost importance on manufacturing that is based on safety and reliability in our efforts to fulfill its corporate social responsibility through corporate activities geared toward realizing *KAITEKI*.

Since the fire at the Kashima Plant in 2007, which led to the loss of precious lives, we have taken steps to raise awareness and adhere strictly to a policy that places an absolute premium on safety through to the present day. To this end, we are engaged in education toward improving employee mindsets and conducted training of risk prediction. Moreover, we verify and share within the Group data on a variety of accidents and troubles. One of the results of those initiatives was that the Mizushima Plant received the fiscal 2015 METI High-Pressure Gas Safety Award for Superior High-Pressure Gas Production. This award is presented to plants or officer who has made a remarkable achievement through initiatives to prevent accidents due to high pressure gas. Particularly, the Mizushima Plant was commended highly for actively conducting safety management activities to prevent accidents based on the three themes of safety, human resources development, and facility management, and for producing results in terms of reducing the risk of accidents.

Looking ahead, as the Chief Executive Officer, I will repeatedly declare that safety is our top priority and that we will conduct rigorous compliance. Moving forward, the MCC Group will continue to promote safety and compliance as its most important values. With this in mind, we will allocate sufficient resources to the field of industrial safety, including human resource development as well as facility investment.

## Creating an environment in which employees make the most of their capabilities and continue working enthusiastically

Our employees are both the cornerstone and wellspring for our abilities to pursue sustained development and to bring the *KAITEKI* concept to fruition worldwide. With increased globalization today, we think it is important that every individual employee becomes a driving force for change as a top professional in their position. We encourage each employee to exert their individuality, respect each other, and grow to become personnel that can truly flourish globally. Based on this understanding, the MCC Group is making efforts to create an environment which enables each and every one of its diverse human resources to maximize their capabilities and work enthusiastically. This includes rebuilding personnel measures, creating a workplace environment worthwhile to work in, fostering a corporate culture that promotes diverse working styles, as well as actively supporting mental and physical health.

In April 2016, the MCHC Group announced a "Declaration of Promoting Health Management." Based on a broad meaning of this, health that enables employees to work enthusiastically, we believe the MCC Group's health management to be aiming toward realizing *KAITEKI*.

## Achieving the Goals of *APTSIS 20*

*APTSIS 20*, the new medium-term management plan, started in April 2016. To achieve the goals of the plan it is important that we; firstly, maintain safe and stable operations that form the base of stable earnings; secondly, continue plans to reduce fixed costs to respond to a changing environment; thirdly, promote structural reform of the petrochemical business in such areas as derivatives and polyolefin field; and, fourthly, enhance the early-commercialization and profitability of the new energy business incorporating lithium-ion battery materials, LED phosphors, gallium nitride and organic photovoltaics.

The new Mitsubishi Chemical Corporation, formed through the merger of MCC, Mitsubishi Plastics, Inc. and Mitsubishi Rayon Co., Ltd., will launch in April 2017, but there will be no change in the direction that each business is aiming for. To enable the new company to maximize the benefits of merging from the outset, we will build a framework to optimize the management resources of the three companies and further strengthen competitiveness.

We have a strong understanding of our mission and role in resolving the social issues mentioned above, and will join together with stakeholders to contribute through our business activities to the sustained growth of people, society, and the Earth, and to realize *KAITEKI*.

As we work toward achieving our established goals, we kindly request the continued support and understanding of all stakeholders.


- The Mitsubishi Chemical Group's Corporate Social Responsibility
- Responsible Care (RC) Activities
- Compliance
- Special Feature: Initiatives toward the Realization of *KAITEKI*
- Together with Employees

# The Mitsubishi Chemical Group's Corporate Social Responsibility

## Mitsubishi Chemical aims to realize *KAITEKI* as a member of the Mitsubishi Chemical Holdings Group

## The Mitsubishi Chemical Holdings Group's aspiration

### By contributing to resolving environmental and social issues, we will build a sustainable society together with stakeholders toward the realization of *KAITEKI*

**(1) Vision**

*KAITEKI* means "a sustainable condition which is comfortable for people, society and the Earth, transcending time and generations." It is an original concept of the Mitsubishi Chemical Holdings Group (MCHC Group) that proposes a way forward in the sustainable development of society and the planet, in addition to serving as a guide for solving environmental and social issues. To realize this vision, the MCHC Group engages in corporate activities that provide products, technologies and services based on the comprehensive capabilities of the Group in the Performance Products domain, Industrial Materials domain and Health Care domain, with chemistry as the basis of our activities.

**(2) Our approach to solving environmental and social issues**

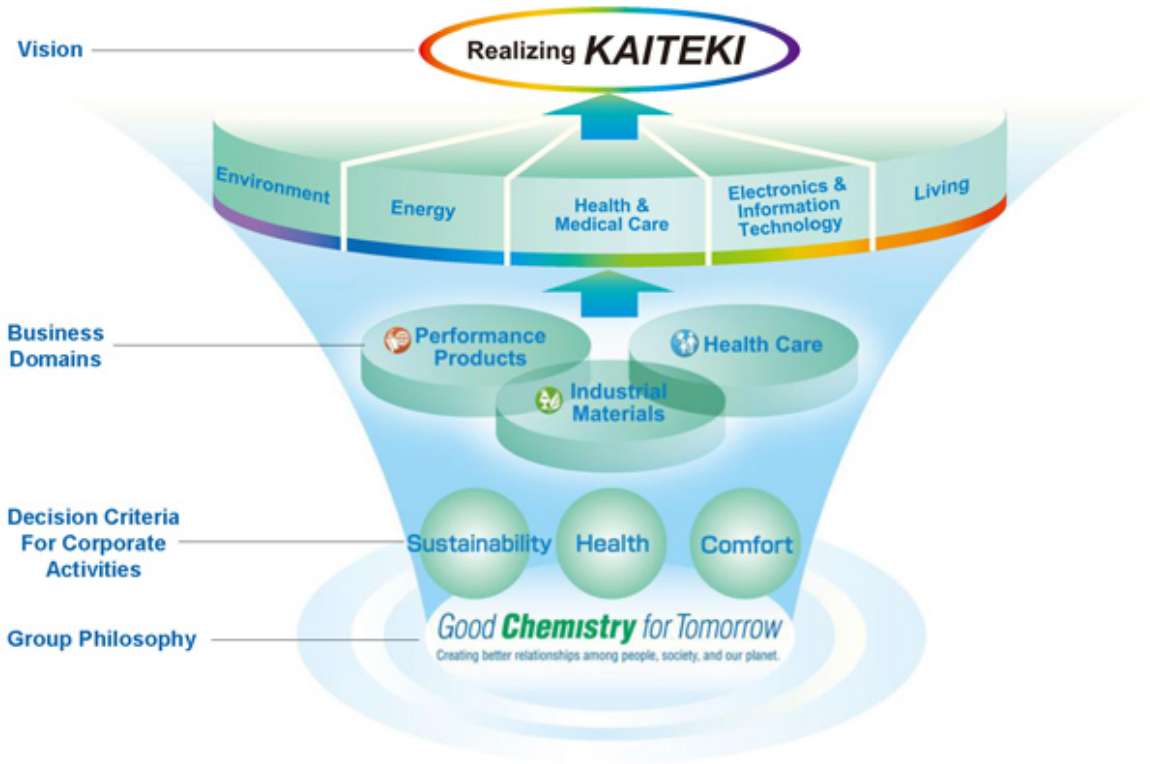
The human race has advanced to where it is today as a result of diverse economic activities as well as scientific and technological progress. However, we have fallen out of balance with the global environment, and are confronted by complex problems spanning from climate change to natural resource/energy depletion and an uneven distribution of food and water. While addressing these global issues, we are being asked by society to contribute to the fields of healthcare and medicine, and to explore ways to improve convenience and advance technology in coexistence with the planet.

In light of these social needs, the MCHC Group aims to achieve sustainable development through systems that recycle materials derived from natural resources, use natural energy sources, support healthcare beyond the treatment of illnesses, and solutions that satisfy diverse values.

**(3) Harmonious relationships with stakeholders**

The MCHC Group considers its stakeholders to include all the people who support our corporate activities: our customers, shareholders and investors, communities, employees and business partners, as well as society, and even the Earth, which is the foundation of our lives. To realize sustainable development among people, society and the Earth, working in concert and engaging in dialog with our stakeholders is indispensable to jointly identify issues and set targets for the short, medium and long terms, and gear our corporate activities to their fulfillment. As part of such activities, MCHC declared our commitment to the United Nations Global Compact in May 2006.

● **Realizing *KAITEKI***




## Philosophy Regarding Enhancing Corporate Value

### *KAITEKI* Management: Management to broadly raise corporate value through realization of *KAITEKI*

The word "chemistry" has a secondary meaning, referring to the compatibilities, relationships and connections between objects, between people and between people and objects. The MCHC Group includes these meanings in the Group philosophy of Good Chemistry for Tomorrow, and working for the realization of *KAITEKI* promotes corporate activities to create better relationships among people, society, and our planet. Based on this philosophy, the MCHC Group has examined "What is the Good Chemistry that the future requires?" In other words, the MCHC Group discussed what businesses it needs to develop for the future. The MCHC Group therefore set Sustainability, Health and Comfort as three decision criteria for corporate activities.
The MCHC Group decided that a different set of values and management methods were needed for it to advance corporate activities with a view to solving environmental and social issues, while comparing the Group philosophy and decision criteria for corporate activities.
As a result, we created our own management method based on three management axes: Management of Economics, which aims to increase economic value by focusing on capital efficiency, Management of Technology, which aims to foster innovation that leads to higher economic and social value, and Management of Sustainability, which aims to enhance social value through improvements in sustainability. Management along these three axes is implemented systematically with an awareness of major trends and opportunities throughout time. *KAITEKI* Management is the name we have given to this unique management method for lifting corporate value from a broad-based perspective.

## Enhancing corporate value

The MCHC Group defines corporate value as the sum total of value created through the three axes of *KAITEKI* Management, a broader meaning than the traditional definition of corporate value that focuses on economic value. We refer to this as *KAITEKI* Value, and all of the MCHC Group's corporate activities target enhancement of *KAITEKI* Value. We are committed to advancing corporate activities toward the realization of *KAITEKI*, or the creation of a sustainable condition for people, society and the Earth.

- **MCHC's *KAITEKI* Management**

From the outset of the previous medium-term management plan *APTSIS 15* (covering fiscal 2011 to fiscal 2015), the MCHC Group has used the MOS Indices as a new management benchmark to visualize the degree of its contribution to sustainability. The MCHC Group has selected quantifiable criteria as indicators of how its corporate activities have had a major impact on solving a broad range of emerging environmental and social issues. The MCHC Group developed a scoring methodology with 22 indices based on three decision criteria: "Sustainability," "Health," and "Comfort." Monitoring of the MOS Indices is undertaken once a year and the results are reported in the *KAITEKI* Report of the MCHC Group. Operation of the MOS Indices under *APTSIS 15* has finished, but we will continue to utilizing the MOS Indices as a measure of our progress during the course of the new medium-term management plan *APTSIS 20* (fiscal 2016 to fiscal 2020).

As its initiative for achieving *KAITEKI*, the Mitsubishi Chemical Group will continue working to achieve its targets regarding the MOS Indices of the MCHC Group. We position our corporate social responsibility (CSR) activities as part of these activities, which are aimed at realizing *KAITEKI*.

## MCHC's MOS Indices (Targets to achieve by the end of fiscal 2015)*1

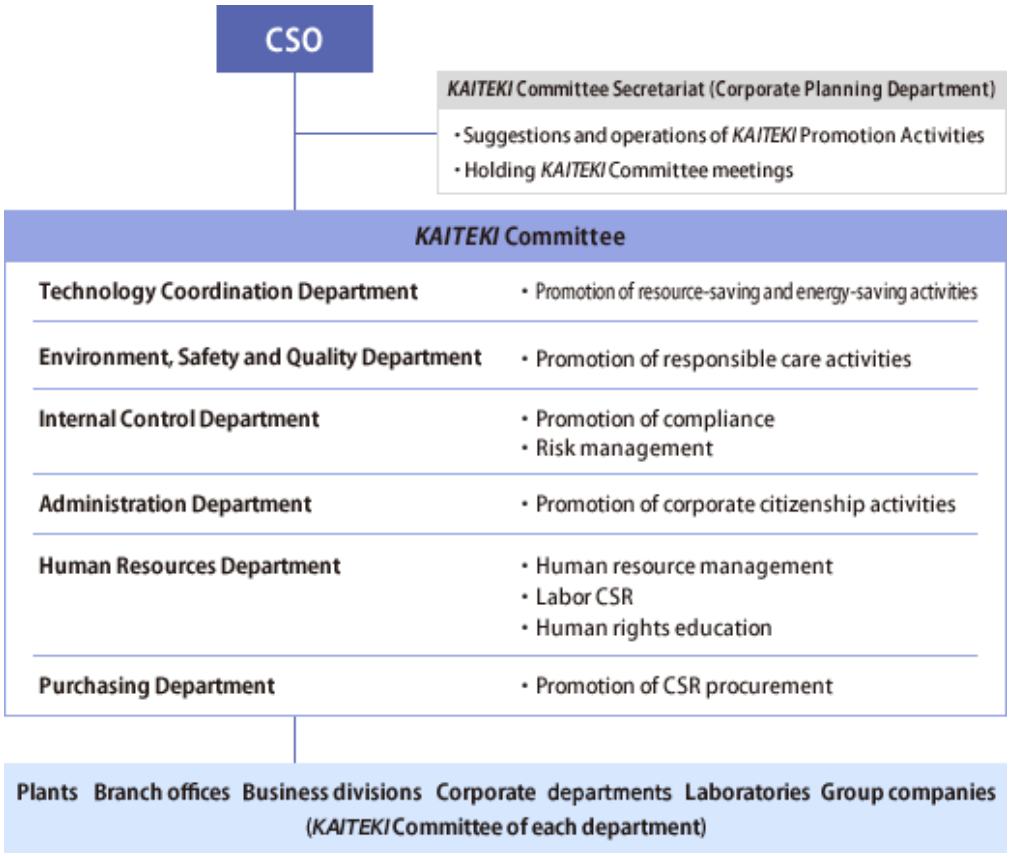
| | |
|---|---|
| Targets that must be achieved | Achieve zero occurrences of serious accidents and compliance violations |
| Sustainability [Green] Index | **S-1: Contribute to reducing environmental impact through products and services** |
| | S-1-1: Reduce environmental impact by 30% from fiscal 2005 levels |
| | S-1-2: Generate reduction of $CO_2$ emissions by 3.5 megatons through products |
| | **S-2: Take actions against the depletion of natural resources and implement energy-saving initiatives** |
| | S-2-1: Procure reusable materials equivalent to 10,000 tons of heavy oil in fiscal 2015 |
| | S-2-2: Reduce cumulative rare metal usage by 1,200 tons through improving processes and innovating products |
| | S-2-3: Generate resources and power savings of ¥8.8 billion |
| | S-2-4: Provide 900 million tons of reusable water through our products |
| | **S-3: Contribute to solving social and environmental issues through supply chain management** |
| | S-3-1: Achieve 80% purchased items surveyed for toxic substances |
| | S-3-2: Achieve 90% purchasing of raw materials and packaging according to CSR guidelines |
| Health Index | **H-1: Contribute to medical treatment** |
| | H-1: Increase the index performance derived by the degree of difficulty to treat diseases multiplied by the number of administered patients by 50% (compared with fiscal 2009) |
| | **H-2: Contribute to improvements of QOL** |
| | H-2: Increase contribution to QOL improvements by 70% (compared with fiscal 2009) |
| | **H-3: Contribute to early detection and prevention of diseases** |
| | H-3-1: Increase the index of vaccine treatment by 17% (compared with fiscal 2009) |
| | H-3-2: Increase the number of people taking diagnostic tests by 26% (compared with fiscal 2009) |
| Comfort Index | **C-1: Deliver products (development and manufacturing) for comfortable lifestyle** |
| | C-1-1: Increase sales of comfort-oriented products by ¥400 billion (compared with fiscal 2010) |
| | C-1-2: Increase the new product ratio from 16% to 30% |
| | **C-2: Improve stakeholder satisfaction** |
| | C-2-1: Improve third-party corporate assessments |
| | C-2-2: Achieve targets for employee-related indexes |
| | C-2-3: Improve customer satisfaction to 80% or more |
| | **C-3: Earn recognition of corporate trust** |
| | Reduce safety accidents |
| | Reduce environmental accidents |
| | Reduce claims to products |
| | Reduce the lost-time injuries frequency rate |
| | Assess product safety according to GPS for 70% of products |

*1 MCHC's MOS Indices

## Organization for promoting *KAITEKI*

At the Mitsubishi Chemical Group (MCC 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 the CSO a MCC *KAITEKI* Committee that consists of members of key business divisions and corporate departments (Technology Coordination Department, Environment, Safety and Quality Department, Internal Control Department, Administration Department, Human Resources 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 MCC Group (*KAITEKI* Promotion Activities). In fiscal 2015, Committee meetings were held on seven occasions.

**Organization for *KAITEKI* Promotion Activities**




## *KAITEKI* promotion activities in fiscal 2015

Realizing *KAITEKI* is enabled through all business activities. We believe that our goal is to create the kind of corporate culture that encourages each employee to think about what form *KAITEKI* can take and plan, implement, and examine actions for achieving it.

*KAITEKI* Promotion Activities implemented by the MCC Group in fiscal 2015 were the continuation of the activities begun in fiscal 2011 aimed at publicizing and encouraging the use of *KAITEKI* Management and the MOS Indices. The specific activities include holding meetings between the President and young employees in various places, using the intranet and in-house newsletter to communicate the management message on the ideal organization and human resources and conducting rank-based *KAITEKI* training. Furthermore, the 7 plants, 3 branch offices, 6 business divisions, 3 corporate departments, and 12 affiliates have each set their own MOS Indices and continue autonomous MOS activities to achieve those targets, which will help raise awareness and understanding of *KAITEKI* management among all employees.

# Targets, Results, and Assessments for Fiscal 2015

The MCHC Group aims to achieve *KAITEKI*, or a truly sustainable society. For this purpose, the 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.

**Targets, Results, and Assessments for Fiscal 2015 (1)**

| Priority Challenges for Fiscal 2015 | Targets for Fiscal 2015 | Results in Fiscal 2015 | Assessment | Link |
|---|---|---|---|---|
| **Promoting *KAITEKI*** | | | | |
| Disseminating and promoting *KAITEKI* management and the MOS Indices | Continue expanding the *KAITEKI* promotion system to plants in the Group. | ■ Held *KAITEKI* Committee meetings 7 times. | ★★★ | Find out more |
| | Continue expanding *KAITEKI* promotion initiatives to plants and Group companies in Japan and overseas, and continue disseminating them to all employees. | ■ Set MOS Indices individually at 7 plants, 3 branch offices, 6 business divisions, 3 common divisions and 12 Group companies and engaged in activities toward achieving those objectives.<br>■ Meetings were held between the President and young employees on 6 occasions on themes such as the ideal human resource, and directors communicated messages on the same theme through an in-house newsletter.<br>■ Provided *KAITEKI* training at various places on a total of 15 occasions for 459 people. | ★★★ | Find out more |

| Risk Management | | | | |
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| Addressing grave risks | Implement countermeasures to respond to the following items of priority risk incidents:<br>1. Accidents such as leaks or explosions during manufacturing and transporting chemical products.<br>2. Regulations for management of chemical products.<br>3. Loss of social trust caused by failure to supply key products.<br>4. Country-specific risk from bribery, etc. overseas.<br>5. Information security.<br>6. Compliance, social responsibility. | ■Promoted deciding the divisions responsible for priority risks.<br>■Held the Risk Management Committee (2 times yearly).<br>■Individual examples:<br>・Promotion chemical product management training and strengthen management systems.<br>・Promote examination of control system response to cyber security.<br>・Strengthen system for response to overseas terrorism, etc. | ★★★ | Find out more |
| | Continue strengthening the framework for promoting internal control to overseas Group companies in collaboration with MCHC.<br>Strengthen the risk management system for domestic Group companies. | ■Activities in collaboration with MCHC and bases in various countries<br>・Held risk hearings at overseas subsidiaries, etc. | ★★★ | Find out more |
| Formulating and putting into effect Business Continuity Management System (BCMS) | Promote effective BCP management (continuously review through training, etc.). | ■Strengthened collaboration through hearings for the business divisions and production divisions.<br>■Inspection and examination of response to the occurrence of an earthquake directly beneath the capital area. | ★★★ | Find out more |

| Compliance | | | | |
|---|---|---|---|---|
| Increasing compliance awareness | Continue implementing compliance training.<br>・Further improve compliance awareness in domestic and overseas Group companies.<br>・Raise awareness and understanding of the importance of compliance issues and risks. | ■Japan<br>Carried out group training to promote rigorous dissemination of compliance for mainly middle managers, as well as conducted online training for all employees.<br>■Overseas<br>Provided various types of training in Europe, north and south America, China and the rest of Asia (group training, online training, etc.).<br>■Important compliance and risk issues<br>Formulated and disseminated the MCHC Group Global Bribery Prevention Policy and MCHC Group Bribery Prevention Guidelines. | ★★★ | Find out more |
| | Continue implementing monitoring for compliance.<br>・Continue conducting compliance perception surveys in Japan and overseas and analyze results.<br>・Make greater use of survey results. | ■Conducted and utilized compliance perception survey.<br>Conducted surveys of employees in Japan and some overseas Group companies, yielding roughly 23,000 responses. Gave feedback on survey results to all domestic and overseas companies and used this for improvement measures.<br>■Hotline<br>Established a new hotline in China and Singapore. | ★★★ | Find out more |

| Process Safety and Disaster Prevention | | | | |
|---|---|---|---|---|
| Preventing facility-related accidents | Achieve the status of zero serious facility-related accidents. | ■Achieved the zero serious facility-related accident target.<br>However,<br>there were some non-serious facility-related accidents. | ★★ | Find out more |
| | Take measures to prevent recurrence of accidents and serious troubles. | ■Utilized information on past accidents.<br>Through horizontal development based on case studies from MCC and other companies, continued measures to prevent reoccurrence of similar accidents.<br>■Conducted accident drills.<br>Continued implementing more practical drills (at all MCC sites) including drills in collaboration with government bodies and industrial complex areas, drills for situations not previously informed, drills for when disasters occur at multiple sites simultaneously, etc. | ★★★ | Find out more |
| | Take action to prevent accidents and serious troubles. | ■Implemented manufacturing risk assessment.<br>・When starting manufacturing of a new product, or when changing manufacturing substances handled, manufacturing equipment, or manufacturing procedures, performed secure | ★★★ | Find out more |

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| | | safety assessment (SA) and took steps to prevent accidents by reducing risk, etc.<br>・Performed safety reviews (SRs) on a scheduled and unscheduled basis.<br>■Developed systems to improve risk assessments for manufacturing processes.<br>・Continuous training for employees to improve risk assessments, more SAs and SRs<br>・・OJT for HAZ Chart analysis, process safety training.<br>・・More SAs, SRs by SR leaders.<br>・・Continued to train chemical process safety engineers (CPSEs) at all MCC sites.<br>■Passed on technical traditions.<br>・Expanded database on technical handover, continued use of database.<br>・Continued to implement safety experience training.<br>■Shared data needed for operational and facility management.<br>・Continued facility management review between facility management department, operational management department, and safety management | | |

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| | | department.<br>■Improved earthquake measures.<br>・Ensured designs are quake resistant and evaluated earthquake resistance of essential equipment, drew up improvement plans for items needing response and implemented earthquake-resistance measures. | | |
| **Occupational Safety and Health** | | | | |
| Preventing occupational accidents | Achieve zero serious occupational accidents (requiring stopping operations for four or more days).<br>Don't allow the rate of lost work time injuries go above 0.1. | ■Serious occupational accidents:8, so target missed.<br>■The rate of lost work time injuries: 0.40 (Japan), so target missed. | ★ | Find out more |
| | Consider and implement measures to prevent action-related accidents. (Increase awareness for front-line professionals). | ■Investigated cause of accidents and implemented measures to prevent their reoccurrence.<br>■Promoted activities to further enhance safety awareness, conducted activities to prevent work accidents, etc. | ★★ | Find out more |
| | Ensure rigorous safety management at work of construction. | ■Reduced risk by implementing risk assessments on work of construction (SAs for work construction), highlighted safety matters in more detail through joint briefings on work safety with partner companies. | ★★★ | Find out more |

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| Managing occupational health | Implement activities to create healthy hearts and bodies. | ■Held seminars on mental health, etc. and run planned stress checks.<br>■Continued specific health guidance programs. | ★★★ | Find out more |

**Targets, Results, and Assessments for Fiscal 2015 (2)**

| Priority Challenges for Fiscal 2015 | Targets for Fiscal 2015 | Results in Fiscal 2015 | Assessment | Link |
|---|---|---|---|---|
| **Environmental Safety** | | | | |
| Preventing environmental accidents and problems | Continue achieving zero environmental accidents. | ■Had no environmental accidents, met the target. | ★★★ | Find out more |
| Reducing chemical emissions | Reduce emissions of PRTR-regulated substances and VOCs. | ■PRTR-regulated substance emissions increased by 40 tons from fiscal 2014 levels.<br>■Reduced VOC emissions in fiscal 2015 by 380 tons compared to fiscal 2014, and 69% from the fiscal 2000 level. | ★★★ | Find out more |
| Reducing landfill disposal | Promote a plan toward zero emissions. | ■The landfill disposal rate generated emissions of 1.4% thereby failing to attain the zero emissions target. | ★★ | Find out more |
| Global warming countermeasures | Implement energy conservation measures in the manufacturing process. | ■On MCC's non-consolidated basis, attained an unit energy consumption index of 104 (100 in fiscal 2005), a decrease of 1 point from the preceding fiscal year.<br>■Increased greenhouse gas emissions by | ★★★ | Find out more |

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| | | 90,000 tons year on year, totaling a 26% reduction from fiscal 2005 on a Group-wide basis.<br>■Accumulation of energy-saving measures such as upgrading MCC's power equipment with significant energy consumption to more efficient models, resulting in reduction of steam energy consumption equivalent to around 21,000 tons of $CO_2$. | | |
| | Reduce unit energy consumption in transit by 5% between 2010 and 2015 (reduce unit energy consumption in transit by an annual average of at least 1%). | ■Increased unit energy consumption by 1.7% compared to fiscal 2014 and by an average of 0.9% over the past five years (MCC's non-consolidated basis). | ★★ | Find out more |
| **Chemical Management and Quality Assurance** | | | | |
| Complying with regulations on chemicals and improving management | Strengthen compliance with international and domestic regulations on chemicals.<br>Make further improvements in chemicals management.<br>Further compliance with GHS (product labeling, labeling of containers in the workplace).<br>Continuous SDS maintenance information updates and revision.<br>Improve information management systems. | ■Developed and operated chemical safety database to provide and share latest regulatory information in Japan and overseas and ensured dissemination of regulatory compliance.<br>■Held monthly internal seminars to provide basic understanding of knowledge and regulatory trends in Japan and overseas related to chemicals management.<br>■Classified all MCC | ★★★ | Find out more |

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| | | products using GHS classifications, displayed all labels and are displaying at internal workplaces.<br>■ Held basic training sessions internally on SDS production and continued supporting similar efforts overseas.<br>■ Built and are operating K-Mates, a comprehensive chemicals management system to manage data related to chemical products. | | |
| | Strengthen risk assessments and their information distribution. | ■ For GPS activities, performed risk assessments for 24 substances and made public 40 safety summaries (in Japanese and English) by end of fiscal 2015. | ★★★ | Find out more |
| Providing safe and secure products | Further improving customer satisfaction.<br>Continue enhancing means of tracking information on controlled chemical substances subject contained in individual products. | ■ Continue thorough product management to ensure products are used safely and securely.<br>■ Proactively and candidly contributed to chemSHERPA through JAMP. | ★★★ | Find out more |
| **Common Responsible Care (RC) Matters** | | | | |
| Running an RC system across the MCC Group | Improve the level of Group-wide RC activities.<br>Continue implementing Safety Day programs.<br>Conduct RC audits. | ■ Held six RC information-sharing sessions within the Group to exchange information.<br>■ Implemented Safety Day programs across the MCC Group.<br>■ Implemented RC audits (at seven MCC sites, three Group companies | ★★★ | Find out more |

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| | | in Japan, five Group companies overseas). | | |

● **Targets, Results, and Assessments for Fiscal 2015 (3)**

| Priority Challenges for Fiscal 2015 | Targets for Fiscal 2015 | Results in Fiscal 2015 | Assessment | Link |
|---|---|---|---|---|
| **Complying with Subcontractor Act** | | | | |
| Complying with Subcontractor Act | Continue holding internal workshops and encourage employees to proactively attend outside lectures. Continue conducting audits of purchasing departments at plants. | ■Held internal workshops and actively encouraged employees to attend outside lectures.<br>■Audited purchasing departments at plants. | ★★★ | Find out more |
| **CSR Procurement** | | | | |
| CSR Procurement | Visit business partners to promote shared standards and improve communication with business partners. | ■Promoted communication through the "Mitsubishi Chemical Holdings Group Shared Standards for Business Partners-Guidebook" mainly when visiting business partners.<br>■Produced a questionnaire for business partners based on the "Mitsubishi Chemical Holdings Group Shared Standards for Business Partners-Guidebook" and called for cooperation with responses. | ★★★ | Find out more |
| **Human Resources Development** | | | | |
| Fostering the next generation of executives | Continue participating in the business leadership program at MCHC. Introduce a "Career management system" and | ■Introduced a career management system (includes the start of career design interviews, monitoring | ★★ | Find out more |

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| | rebuild the training program based on the system. | the placement and development of executive management candidates and promotion of inter-divisional rotation).<br>■ Rebuild the training system while incorporating the career management system. | | |
| Cultivating global human resources | Continue utilizing a global program.<br>Introduce a "Career management system" and rebuild the training program based on the system. | ■ Newly establish a Global HR Group.<br>■ Rebuild the training program while incorporating the career management system.<br>■ Ran the Overseas Business Challenge System (8 people in the previous fiscal year, 4 new people) and Overseas General Study Program (6 people in the previous fiscal year, 2 new people). | ★★ | Find out more |
| Offering opportunities to take on challenges and boost awareness | Introduce a career management systems and examine rebuilding the training program based on this.<br>Implement programs for in-house open recruitment, in-house free agencies, in-house internships, and career counseling. | ■ Introduced a career management system (includes the start of career design interviews, monitoring the placement development of executive management candidates and promotion of inter-divisional rotation).<br>■ Nos. undertaking programs: 12 people for in-house open recruitment,<br>1 in-house free agency, and 22 people received career counseling. | ★★ | Find out more |

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| **Developing the Organization and Its Culture** | | | | |
| Helping various human resources show their strengths | Facilitate awareness of independence and respecting others. Implement actual examples of promoting exhibitions of capabilities.<br>・Women: Continue assured support activities.<br>・Child-raising and nursing care: Provide places to talk and a variety of information.<br>・Foreign nationals: Continue assured support and recruiting.<br>・People with disabilities: Continue helping people with disabilities to fulfill their capabilities. | ■Held diversity training (total of 33 times).<br>■Implemented and decided to introduce a telework system.<br>■Target: Females<br>・Decided on nurturing policy for all female managers.<br>・Increased the ratio of female managers to 6.5%, a 0.2% increase compared to fiscal 2014.<br>■Target: Foreign nationals<br>・Established a support system for the retention of foreign national employees.<br>・Hired four new graduates of foreign nationality.<br>■Target: People with disabilities<br>・An employment rate of 2.26%, attaining the statutory rate for disability employment. | ★★ | Find out more |
| **Supporting a Work-life Balance** | | | | |
| Promoting reduction in total working hours | Continue reducing overtime and holiday work and eliminating excessive work hours by promoting the increase of work efficiency. | ■Obeyed to a system requiring advance permission for overtime and holiday work and promoting people to leave work early.<br>■Average overtime work hours for general employees (ordinary daytime workers): 18.1 hrs (Reduction of 0.8 hours compared to fiscal 2014). | ★★ | Find out more |

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| | | ■The rate of paid leave taken: regular daytime workers, 82%.<br>■Implemented office organizations management support through feedback of a review of work and sharing favorable workplace examples and overtime records. | | |
| **Raise Awareness of Human Rights** | | | | |
| Promote human rights and diversity | Continue promoting awareness of human rights and diversity within the MCC Group.<br><br>Deepen work toward global standards of human rights.<br>Ensure a better understanding of human rights issues, including burakumin discrimination, and eliminate prejudice.<br>Prevent sexual harassment, abuse of authority, and other forms of harassment at workplace. | ■Held 417 group training sessions attended by 8,028 employees.<br>■Human rights awareness slogan entries: 13,501 | ★★ | Find out more |
| **Initiatives to Promote Employees' Health** | | | | |
| Enhancing Health Support Policies | Address the legal requirements of Stress Check Test.<br>Establish individual work support programs.<br>Implement Health Survey and reflect health support policies based on the results of Health Survey. | ■Preparation and scheduling for implementing Stress Check Test (implemented sequentially by office from January 2015).<br>■Introduced individual work support programs.<br>■Provided feedback to workplaces on results of Health Survey and reflected challenges in health events. | ★★★ | Find out more |

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| **Identifying Problems** | | | | |
| Implementing employee surveys | Implement employee surveys and incorporate such findings into various management measures. | ■Received the findings of fiscal 2014 surveys.<br>・Continued distributing the top message.<br>・Constructed a career management system and implemented it.<br>・Established and implement policies to enhance management capabilities.<br>・Promoted work reviews and were thorough about subordinates conducting appropriate management.<br>■Conducted surveys with responses from 20,138 employees in fiscal 2015, accounting for 92% of the Group-wide workforce. | ★★ | Find out more |
| **Labor-Management Relations** | | | | |
| Building productive labor-management relations | Maintain and improve labor-management relations and increase the depth of labor-management communications. | ■Lively exchanges of opinion at management and labor committee meetings.<br>■Shared management information at appropriate timing. | ★★ | Find out more |
| **Corporate Citizenship Activities** | | | | |
| Engaging in corporate citizenship activities in the areas of cultivating future generations, communicating with local communities, and providing | ・Continue corporate citizenship activities under the subjects of cultivating future generations, communicating with local communities, and supporting activities for | ■Support activities for Tohoku reconstruction (implemented as MCHC Group activities).<br>・Held Let's Go to Tokyo event: Worked with NPO to provide | ★★★ | Find out more |

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| support for the reconstruction of the Tohoku region | the reconstruction of the Tohoku region.<br>・As a company, continue providing employees with opportunities to volunteer and to promote their participation.<br>・Provide information about volunteering to employees through the intranet (using such means as the corporate citizen database). | opportunity to visit Tokyo for primary school children and guardians from Otsuchi Town, Kamaishi City of Iwate prefecture.<br>・Held an exhibition of products from three prefectures in Tohoku (Iwate, Miyagi, and Fukushima) in our head office building.<br>■Cultivating future generations.<br>・Held chemistry experiment workshops for children who will be responsible for future generations (at each plant).<br>・Co-sponsored the Mitsubishi Chemical Junior Designer Award (MCJDA).<br>■Communication with local communities.<br>・Accepted trainees from overseas as part of our collaboration with Kitakyushu International Techno-cooperative Association.<br>■Communicated to employees through the corporate citizenship activities database about volunteering information, volunteering records and experiences.<br>■Provide employees with opportunities for volunteering (implement as part of the MCHC Group).<br>・Took part in Tokyo | | |

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| | | Greenship Action, activities to preserve nature conservation areas conducted through a collaboration by the Tokyo Metropolitan Government, NPOs and companies. | | |


The Mitsubishi Chemical Group (MCC Group) is working to provide all customers with products and services that contribute to the realization of *KAITEKI*, in conjunction with striving to enhance the *KAITEKI* value of the MCC Group itself. Specifically, the MCC Group is providing a diverse range of products and services that contribute to the sustainable development of society and the abundant and comfortable lives of people, as well as harmony with the global environment. At the same time, efforts are also focused on initiatives such as reducing the environmental impact of business activities, conducting energy- and resource-saving activities, taking steps to increase public trust in the company, improving stakeholder satisfaction and building an organization with productive and satisfying workplaces.

## 1 MCC Group products that help to realize *KAITEKI*

In Special Feature 1, we present MCC Group products that contribute to realizing *KAITEKI*. The MCC Group has developed various products based on the "Power of Chemistry," which it has cultivated over many years, with the goal of having each product contribute to either Sustainability, Health, or Comfort, one of the MCHC Group's three decision criteria for corporate activities. From among these products, we highlight several MCC Group products that are closely connected to the following themes: "Contributing to reducing our environmental impact," "Contributing to tackling the depletion of resources" and "Contributing to comfortable lifestyles."


- Contribution to reducing our environmental impact (Sustainability)
- Contribution to tackling the depletion of resources (Sustainability)
- Contributing to comfortable lifestyles (Comfort)


## 2 The MCC Group's grassroots MOS activities

In Special Feature 2, we present autonomous MOS activities undertaken to improve the *KAITEKI* value of the MCC Group itself. Management of Sustainability (MOS) is one of the main management axes of *KAITEKI* management, which is being promoted by the entire MCHC Group. MOS aims to enhance social value through improvements in sustainability. Guided by this approach, we are conducting various activities aimed at

enhancing the MCC Group's MOS value. One of these activities is autonomous MOS activities, where each business division, plant, branch office, corporate department and Group company plays a central role in examining the MOS value that it can provide, sets key performance indicators and goals for the priority issues, and endeavors to achieve those goals. Through these grassroots activities, the MCC Group believes that it can improve the MOS value of each department and thereby enhance the *KAITEKI* value of the MCC Group as a whole. In this feature, we put the spotlight on several of these activities undertaken by each site.

Special Feature

# Initiatives toward the Realization of *KAITEKI*

## 1 MCC Group products that contribute to realizing *KAITEKI*

### Contribution to reducing our environmental impact (Sustainability)

The Mitsubishi Chemical Group (MCC Group) is working on two initiatives to reduce the $CO_2$ emissions that are thought to be the cause of global warming: reducing emissions at the manufacturing stage, and providing products and materials with good energy efficiency to our customers and encouraging them to use those, thereby reducing the total $CO_2$ emissions.

Sustainability Lithium-ion battery materials that contribute to the dissemination of eco-friendly automobiles

### Through the supply of key materials, contribute to solve environmental and energy issues

Lithium-ion batteries (LiBs) are compact and can achieve high capacity. The demand for these batteries, which are essential for mobile devices such as smartphones and tablets, is continuing to grow. Demand increased steadily for high-performance batteries for eco-friendly automobiles such as hybrid vehicles and fully electric vehicles and expectations have also grown towards larger size products, including energy storage applications for residential and industrial use. MCC is responding to increasingly sophisticated customer needs based on its high technical capabilities, which comprehensively cover all processes from materials development to safety evaluation. By supplying key materials for LiBs based on our global supply chain network, we contribute to efficient energy use and a reduction of environmental burden.

Key LiB materials (electrolyte, anode material)

▸ Lithium-ion battery materials

Sustainability Organic photovoltaics, a groundbreaking technology for solar cells

### Helping solve energy problems by commercializing innovative solar cells

MCC is utilizing organic compound technologies to work on the commercialization of organic photovoltaics (OPVs), which are printed organic thin-film solar cells that have considerably different properties than traditional solar cells.

The most prevalent kind of solar cell today is crystalline silicon, which uses glass substrates so the panels are rigid and heavy, restricting where they can be installed. MCC-developed film-type OPVs are manufactured lighter and more


Film-type OPV module

flexible by printing organic semiconducting materials on thin substrates such as plastic film and metal foil so they are thin and sheet-shaped. In 2008, MCC began in earnest to work on developing OPVs and improving their photoelectric conversion efficiency and increasing the size of the modules. From 2015, we launched test marketing and strive for market deployment.

Film-type OPVs have flexible and light characteristics, furthermore it has superior design characteristics. For example it has variations in size and color tone and can be see-through, and therefore it enables diverse applications on the external walls and windows of buildings that are completely different from conventional applications.

In May 2014 MCC installed the external building wall unit developed together with Taisei Corporation that generates electricity using OPV units in the building that Taisei Corporation constructed as it works toward realizing a Zero Energy Building (ZEB) in urban area, and commenced verification tests (implemented as a NEDO* project called Guidance and Technical Development Project for the Practical Application of Organic Photovoltaics).

To realize ZEB in urban area, it is essential to effectively utilize surfaces such as walls and windows in addition to the roof in order to ensure a greater amount of electricity generation.

In order to install solar units on the external walls of buildings, it is not merely a matter of the solar cell's function, but the ease of installation (lightweight, thinness) and design (size, color, etc.) are also important. After installation, the ease of maintenance is also necessary and there are great expectations of OPVs as materials that can respond to these needs. Going forward, we will proceed with verification tests aimed at the practical application of OPVs as "external wall units that generate electricity."

ZEB with film-type OPV units installed on the external walls, Taisei Corporation (Verification test now under way)

* NEDO: New Energy and Industrial Technology Development Organization

## What is a zero energy building?

According to a study group of the Ministry of Economy, Trade and Industry in 2009, a zero energy building is defined as "a building that consumes zero or nearly zero energy on an annual net basis by reducing primary energy consumption in the building through enhanced energy efficiency performance of the building envelope and facilities, networking of neighboring buildings, on-site utilization of renewable energy, and so on." Globally too, in regions with a good climatic environment and a comparatively small energy load, there are many examples of buildings that can secure sufficient power generation using solar panels by creating large roof area, and it is thought to be very difficult to realize such buildings in urban areas.

▸ OPV

Sustainability Needle coke that contributes to the recycling of industrial materials

## Refining steel scrap with world-first coal-chemical production technologies

Steel is a material that can be used again and again. We recycle steel by smelting, refining, and recovering steel scrap from automobiles and building materials in an electric arc furnace. Petroleum-based needle coke had mainly been used as a primary raw material in the electrodes of these electric arc furnaces before MCC became the first company in the world to successfully produce coal-based needle coke in 1979.

Coal-based needle coke that MCC developed is produced from coal tar which appears during coke production. In recognition of this accomplishment, MCC was awarded the 27th Okochi Memorial Production Prize, a prestigious prize to remarkable contributions in production engineering and implementation of sophisticated production technologies in Japan. There are only a few companies around the world that can produce coal-based needle coke. Backed by this technology, in November 2012, MCC established a joint venture with Posco Chemtech Co., Ltd. for the production and sale of needle coke in South Korea and licensed the technology to the joint venture. In April 2013, we held the groundbreaking ceremony for the manufacturing facility and in January 2016, we completed the transfer of technology. In May 2016, we started operation of the manufacturing facility.

Needle coke offers high durability in high temperatures, a smaller thermal expansion coefficient, and slower rate of consumption. MCC will continue to contribute to a resources-saving society by using technologies to change coal, which has a more stable supply than petroleum, for which there are fears of depletion, into an advanced material.

Needle coke

Electrodes for electric arc furnaces

- Needle coke


- Top
- *KAITEKI* Realization Products 1
- *KAITEKI* Realization Products 2
- *KAITEKI* Realization Products 3
- Autonomous MOS Activity 1
- Autonomous MOS Activity 2
- Autonomous MOS Activity 3

Special Feature

# Initiatives toward the Realization of *KAITEKI*

## 1 MCC Group products that contribute to realizing *KAITEKI*

### Contribution to tackling the depletion of resources (Sustainability)

The major raw materials of the plastics and other chemical products provided by the Mitsubishi Chemical Group (MCC Group) are depletable resources that only exist on the Earth in limited amounts such as petroleum, coal, and natural gas. We believe that the problem of the depletion of resources is a social issue that we must give priority to in order to maintain the sustainability of manufacturing and fulfill our responsibility to provide products in the future, so we are working to switch to "sustainable" raw materials that can be produced repeatedly with solar energy.

Sustainability DURABIO™, a transparent bio-based engineering plastic

### Helping to realize a sustainable carbon society through the development of innovative bio-based materials

DURABIO™ is a transparent engineering polymer* made from bio-based material. DURABIO™ combines the lightweight and workability properties of plastics with the transparency and optical features of glass, and also has outstanding impact, heat, and weather resistance along with easy coloring properties.


Meter covers for Renault's new Clio model

Conventional bio-based polymer had poor heat resistance, as well as problems with processability, durability, transparency and other properties. Using proprietary molecular structure design, catalyst and other technologies, the MCC Group surmounted these problems and developed DURABIO™, which realizes a glossy surface through a simple molding process. Since DURABIO™ exhibits almost no yellowing even after long periods of exposure to ultraviolet rays, it can be used in applications such as construction materials installed outdoors, as well as other usages in a wide range of fields by leveraging properties such as the ability to be colored with brilliant hues.

In the automotive field, DURABIO™ was adopted as colored plastic interior panels for the new Hustler, which is a main compact model by Suzuki Motor Corporation on December 24, 2013. It was also adopted as interior parts in Roadstar, which is a popular convertible model of Mazda Motor Corporation. In addition, Mazda plans to expand use of DURABIO™ to automotive exterior parts. Moreover, the French automobile manufacturer, Renault has started adopting DURABIO™ as interior parts in its main model, Clio. In the field of optical devices, Sharp Corporation has adopted DURABIO™ for the front panel for the AQUOS CRYSTAL2 smartphone model. In recognition of the technical capabilities of this material, MCC and Sharp Corporation jointly received the 10th European Bioplastics Award.

The MCC Group will continue to accelerate the expansion of DURABIO™ applications in many different fields.

* Engineering plastic: This is the general name for plastic materials that are developed for applications that require particularly high durability and heat resistance. In addition to their use in mobile phones, computers and other electronic equipment, as an optical and energy-related material as well as an alternative material to high-performance glass, engineering plastics are being applied across a wide range of industries encompassing automobiles, aircraft, solar cells, and medical equipment.

- DURABIO™

Sustainability Carbon black derived from sustainable plant oil

## Supporting comfortable and safe driving performance and contributing to the promotion of the carbon recycling society


Carbon black

Carbon black is a fine particle of carbon and a large amount of carbon black is used mainly in tires for its excellent rubber reinforcement properties. It accounts for one-fourth of a tire's weight and tires are black because of the black color of carbon black. Furthermore, as a black pigment it is used in printing inks, colored resins, paints, toner, and other applications. Moreover, it is used in antistatic films, packaging containers, and other products.

Carbon black has been produced while controlling its various properties through the incomplete combustion of depletable resources such as coal-derived and petroleum-derived heavy oil and gas. However, as a part of our efforts to switch raw materials to plant-derived resources, we have successfully mass-produced carbon black from plant oil by applying the technologies for producing high-performance carbon black that we have developed in-house.

We commenced trial production at the Kurosaki Plant (Kitakyushu City) in December 2010, and started supplying to customers in July 2013. Going forward we will closely monitor the growth of the market while considering expansion of our production system and continue working toward a switch to sustainable raw materials.

- Carbon black


- Top
- *KAITEKI* Realization Products 1
- *KAITEKI* Realization Products 2
- *KAITEKI* Realization Products 3
- Autonomous MOS Activity 1
- Autonomous MOS Activity 2
- Autonomous MOS Activity 3

Special Feature

# Initiatives toward the Realization of *KAITEKI*

## 1 MCC Group products that contribute to realizing *KAITEKI*

### Contributing to comfortable lifestyles (Comfort)

In order to contribute to Comfort, one of the judgment criteria for the corporate activities of Mitsubishi Chemical Holdings Corporation, the Mitsubishi Chemical Group (MCC Group) is providing products in a variety of domains that make the lifestyles of people convenient, secure, safe, and comfortable.

Comfort YUPO™, resin-based synthetic paper that opens up new possibilities

### Lifestyles are enriched with the development of water-proof synthetic paper that can be used outdoors

The synthetic paper, YUPO™, is used for printed materials that are displayed outdoors, such as the timetables at railway stations, the in-store banners, and election campaign posters. Moreover, YUPO™ is used for the moisture-proof labels of containers and products that require refrigeration. YUPO™ is manufactured and marketed by the MCC Group company, Yupo Corporation, which maintains a sizeable share of the global market for synthetic paper.

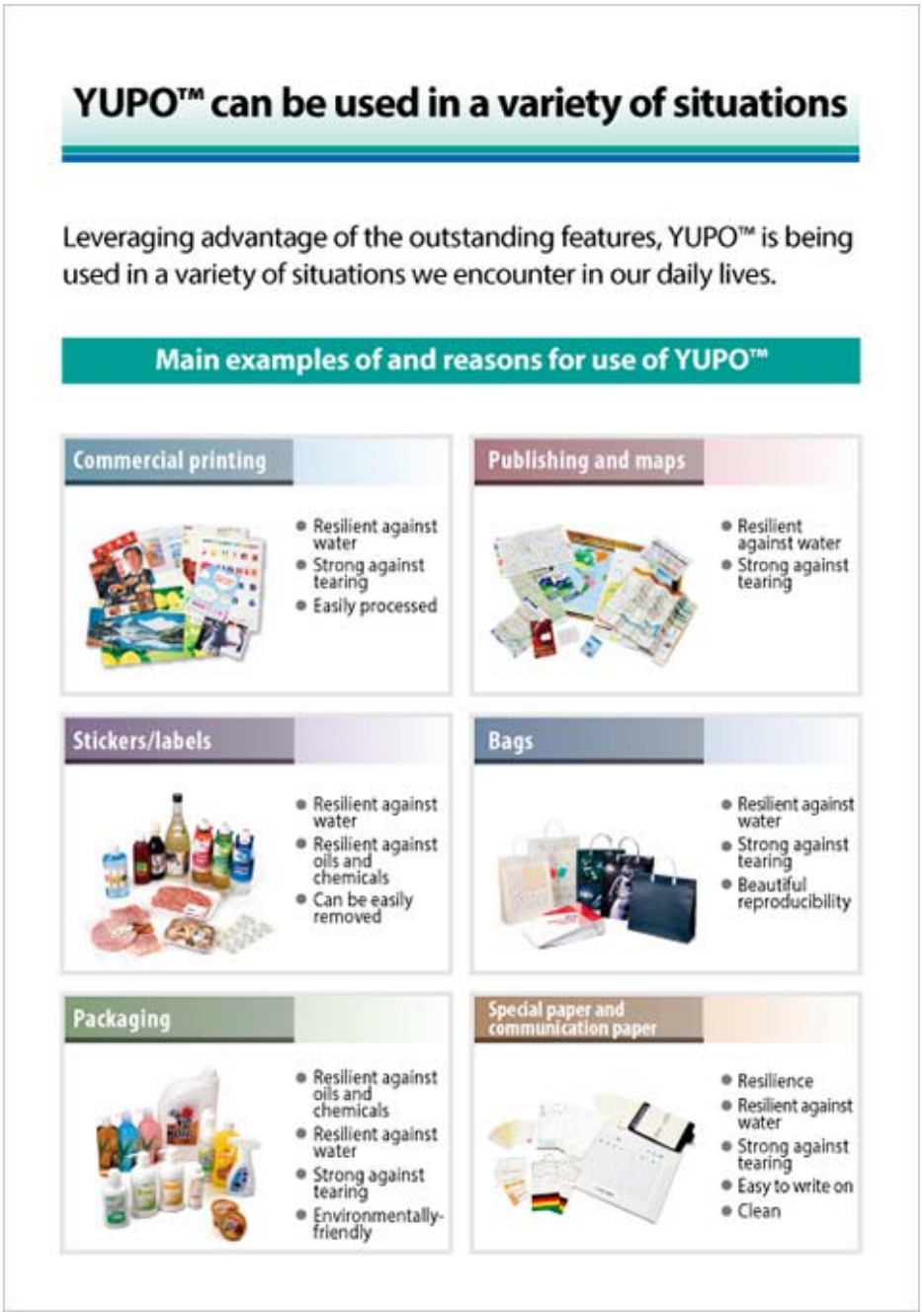
YUPO™ is manufactured by adding inorganic fillers to the main ingredient of polypropylene (PP), then stretching it into a film form. It is stretched so that innumerable micro-voids* occur inside the film. As a result, light is diffused by YUPO™ which allows for the reflection-free, high level of whiteness. It is also just as easy to print or write on as paper. Moreover, the product is light because the innumerable micro-voids reduce its specific gravity.

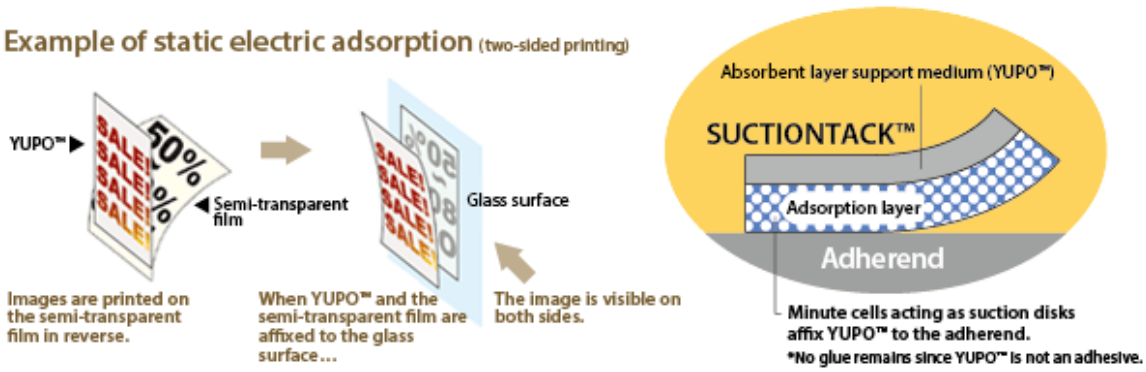
Resilient against water, YUPO™ largely retains its strength and shape even when wet. Among a host of additional features, this product is strong against pulling, tearing, and impact and can be used repeatedly. YUPO™ boasts a smooth surface, can be easily processed, and does not easily degrade even when in contact with oils and chemicals. In addition to these outstanding properties, YUPO™ is distinguished by its environmental attributes. Easy to recycle, YUPO™ decomposes into carbon dioxide and water when incinerated, and is contributing to comfortable lifestyles through a wide variety of applications.

* Micro-voids: voids at the micron scale which occur internally when rubber, plastic, or certain other materials are expanded, contracted, or rolled

YUPO™ has a variety of grades to accommodate the different applications of our customers. For example, since 2005 we have been selling the slightly absorbing sheet YUPO OCTOPUS / YUPOTAKO™ which can be easily applied and removed, and is made by putting a suction layer on one surface of YUPO™.

In addition to the features of YUPO™ as a synthetic paper, YUPO OCTOPUS / YUPOTAKO™ has the feature that the minute cells in its suction layer act as suction cups, affixing the YUPO™ to the adherent. No adhesives are used so when YUPO OCTOPUS / YUPOTAKO™ is removed no glue remains behind. Furthermore, the absorbent face absorbs all smooth surfaces including glass, steel, polyester, PP, and aluminum so it can be used for a wide range of applications including product signs, labels, sign displays, store decorations, teaching materials, and more.




The structure of SUCTIONTACK™


Store signs

Educational stickers


Warning stickers

Countertop stickers

▸ YUPO™

Comfort RYOTO™ sugar ester, food emulsifier that contributes to the world's food industry

## Supporting lifestyles abundant in food by developing safe food ingredients

Sugar ester is an emulsifier for food made from plant-derived fatty acids and sucrose. It is used in a wide variety of processed foods, such as canned coffee and other beverages, whipped cream and other dairy products, and cake, chocolate and other sweets. Sugar ester helps food taste better and improves convenience. In recent years, the use of sugar ester has expanded around the world, especially in Asia. This business continues growing to contribute to *KAITEKI* through the world's food domain.
The MCC Group has produced and sold RYOTO™ sugar ester food-grade emulsifier around the world for more than 40 years through its subsidiary Mitsubishi-Kagaku Foods Corporation. By thoroughly ensuring safety in its product development and production, the MCC Group has won the leading share of the world market. We contribute to the world's food industry as RYOTO™ sugar ester is broadly used in foods around the world.


RYOTO™ sugar ester is used in foods like these

▸ RYOTO™ sugar ester

Comfort MCC's fully artificial light-type plant factory Plant Plant™

## Growing vegetables for a better world

MCC's fully artificial light-type plant factory Plant Plant™ is a system for implementing hydroponic cultivation of baby greens and other plants by using stacked growing racks in an indoor environment where conditions such as light, temperature, and humidity are perfectly controlled. It can be installed in all kinds of locations, including cold, desert, and urban environments. The crops are unaffected by the weather and seasons, so they can be stably cultivated all year round. This groundbreaking system grows plants in as environmentally-friendly a manner as possible, drawing on our expertise as a comprehensive chemical manufacturer. Plants are cultivated in an enclosed space, and agri-chemicals are not used during the cultivation period, so harvested vegetables can be eaten without washing them first. In October 2015, we began operation of a proprietary plant in Odawara City, where we are cultivating and marketing Cure Leaf™, a baby greens mix containing abundant specific nutrients. Cure Leaf™ has been recognized as one of only a few perishable foods to be confirmed as a Food with Nutrient Function Claims (FNFC) (for vitamin K). Plant Plant™ has been certified as a "ME-BYO BRAND" by Kanagawa Prefecture as part of the "Improve the Prevention of Diseases" program undertaken by the prefecture. Going forward, MCC will work to develop vegetables that are sought by consumers and efficient cultivation methods for those products by taking advantage of expertise, including knowledge gained from the sale of vegetables cultivated at this plant. Through the sale of Plant Plant™, MCC seeks to stably supply delicious vegetables with high nutritional value worldwide.


Plant Plant™ factory


Cure Leaf™ (vitamin A) (folic acid) (potassium)

▸ Plant Plant™

Comfort ZELAS™ is a high performance polymer exhibiting excellent potential for medical applications.

## Providing ZELAS™ products that are safe and reliable, directly addressing the medical needs.

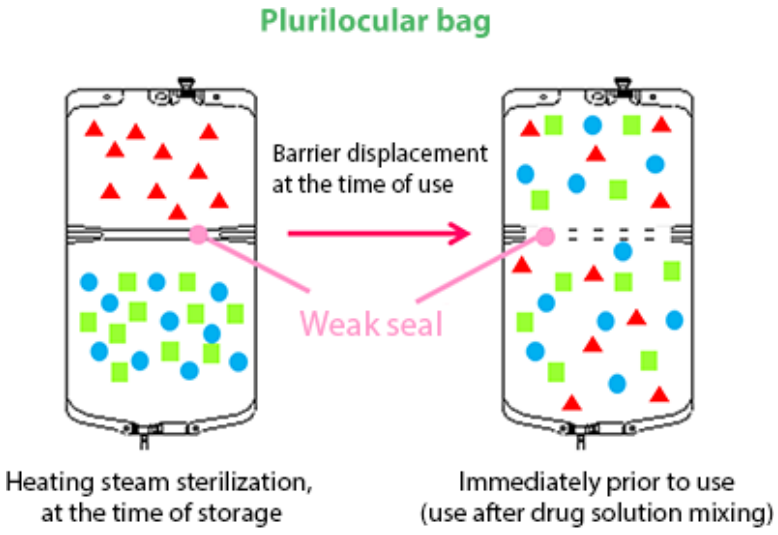
ZELAS™ peritoneal dialysis solution bag

As a wide range of medical-use plastics are used in medical devices, MCC has been developing and supplying a variety of products for the medical industry. ZELAS™, an olefin-based thermoplastic elastomer, is attracting most major medical device producers particularly for use in infusion bags.

Taking its easy handling as well as infusion efficiency into consideration, special plastic bags have become popular among infusion containers for a capacity of 1 liter or more. These infusion bags are normally comprised of multiple layers of outer / intermediate /inner layers to meet the requirements of various criteria, such as bag forming properties, post-sterilization transparency, flexibility, impact resistance, and high cleanliness. ZELAS™ offers various grades to satisfy the requirements for each layer and facilitate the development of excellent infusion bags that match bag manufacturing machines. ZELAS™ is distinguished by its suitability for multichamber bags. It can realize the peelable performance of ideal morphology, by optimizing the heat sealing process at the time of bag-manufacturing, which enables separately keeping solutions before mixing when used. Medical device suppliers appreciate and have already adopted this remarkable technology for various products.

MCC will innovate technologies continuously for diversified and unmet needs, and will contribute to further developments in the medical application field.

▸ ZELAS™



Comfort LINKLON™ and OLEFISTA™ materials for photovoltaic systems that exhibit outstanding heat resistance

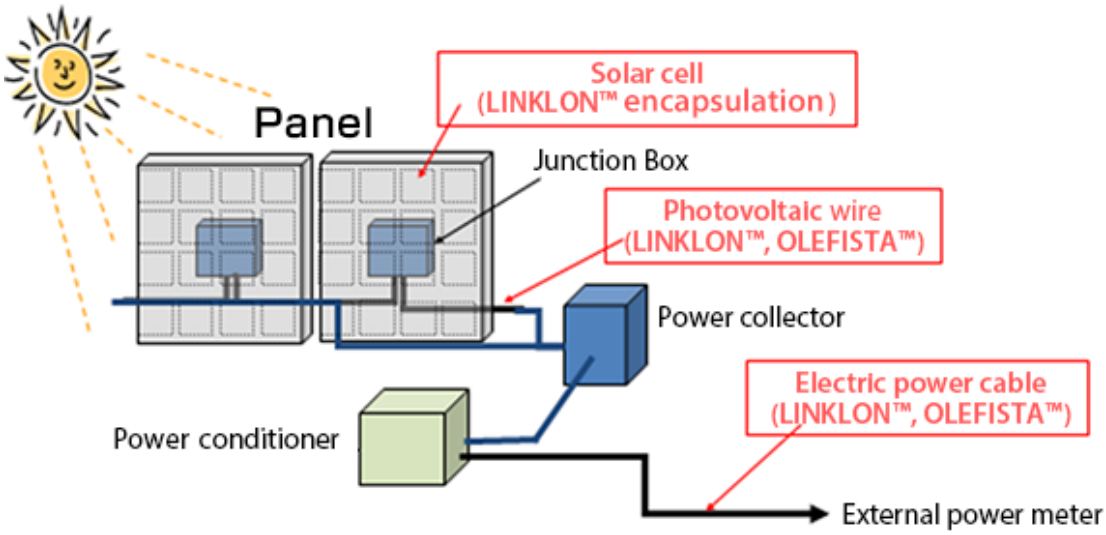
## Leveraging our comprehensive capabilities to create sustainable energy

Photovoltaic systems have proliferated as a clean and sustainable energy source. MCC has developed LINKLON™ and OLEFISTA™ for use as materials in these photovoltaic systems, which are required to be highly durable and weather-proof. LINKLON™ is a silane cross-linkable polyolefin resin with heat, abrasion and chemical resistance that makes it suitable for use in applications that demand long-term durability, such as electric power cable insulation and solar panel encapsulation. OLEFISTA™ is a halogen-free flame retardant polyolefin resin used in applications that require heat and flame resistance, such as sheathing for electric power cables.

OLEFISTA™ is used in sheathing for electric power cables.

In this manner, MCC is contributing to the creation of sustainable energy.

**Photovoltaic system**




- LINKLON™
- OLEFISTA™

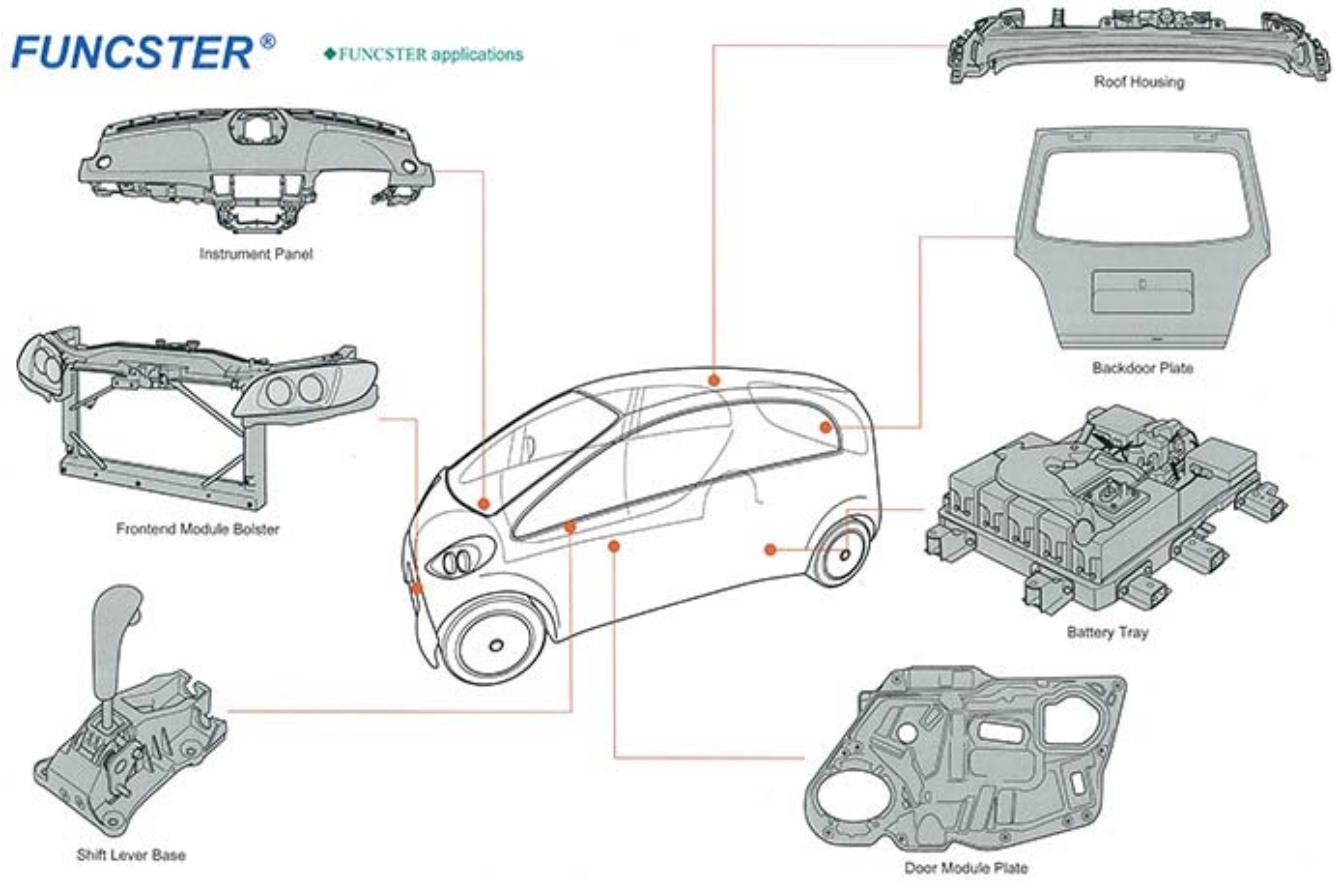
Comfort FUNCSTER™, a long glass fiber-reinforced polypropylene composite material

## Contributing to improved fuel economy by reducing the weight of automobile parts

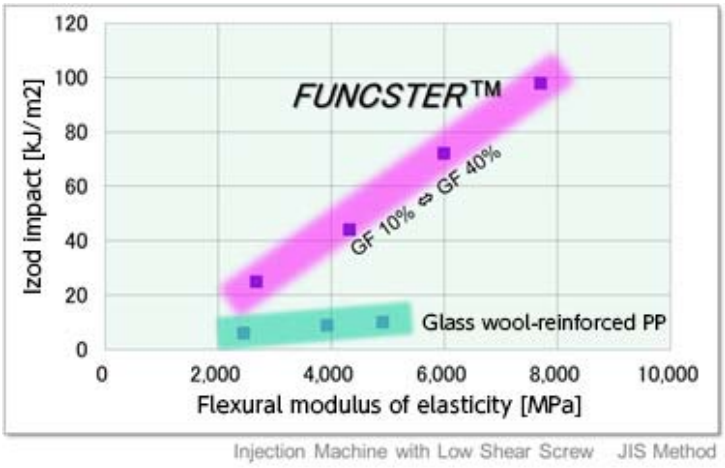
FUNCSTER™ is a long glass fiber-reinforced polypropylene composite material manufactured using the proprietary pultrusion process of Japan Polypropylene Corporation. The main raw materials are polypropylene (PP), which is lightweight and has outstanding molding and mechanical properties, and glass fiber. Because the glass fiber is more effectively dispersed in the material than in products made using other manufacturing methods, FUNCSTER™ offers an outstanding balance of strength, rigidity and impact resistance that is difficult to attain with conventional short glass fiber reinforced PP. Compared with other materials such as metals and engineering plastics, FUNCSTER™ possesses an outstanding specific strength (see graph) and offers excellent molding properties due to its good fluidity in a molten state. For these reasons, FUNCSTER™ can support the trend toward larger automobile parts brought

about by the modularization of these parts, and help to reduce weight by replacing metal and engineering plastic parts. Looking at its main applications, FUNCSTER™ has achieved a weight reduction of approximately 10% to 30% in structural automobile parts (including front-end module bolsters, door module plates, instrument panels, back door inner plates; see chart), with further growth in demand anticipated going forward.

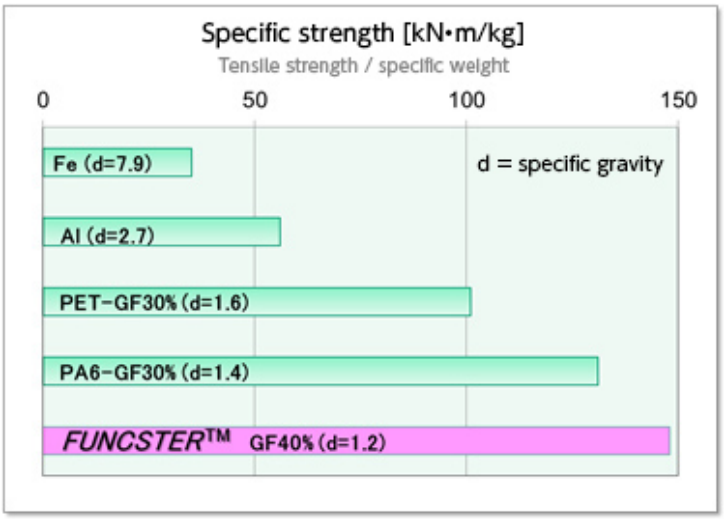
Japan Polypropylene owns manufacturing plants for FUNCSTER™ in Japan, the U.S. (Atlanta), and China (Changshu). As Japan's only manufacturer capable of supplying long glass fiber-reinforced PP from three bases around the world, Japan Polypropylene will work to cultivate markets with the aim of replacing metals, engineering plastics, and other materials to help meet the weight-reduction requirements of customers in automobile parts-related sectors worldwide.




Examples of automobile part applications




Outstanding balance of strength, rigidity and impact resistance



FUNCSTER™ possesses superior specific strength versus other materials (metals, engineering plastics)

Comfort ZEBREX™ helps to curtail CO2 emissions

## Making the bioethanol manufacturing process more energy efficient

The use of bioethanol, which is made from biomass materials such as corn and sugar cane, is becoming more and more prevalent around the world, primarily in the U.S. and Brazil, given that it is a fuel that could pave the way for carbon neutrality and help curtail $CO_2$ emissions. Notably, more than 210 bioethanol plants are currently in operation in the U.S. (representing total production of 50 million kL per year), against the backdrop of increased demand driven by policies to encourage the use of bioethanol additives in gasoline. In fact, the United States Environmental Protection Agency (EPA) is planning for an additional doubling in the production volume of bioethanol in the near future.

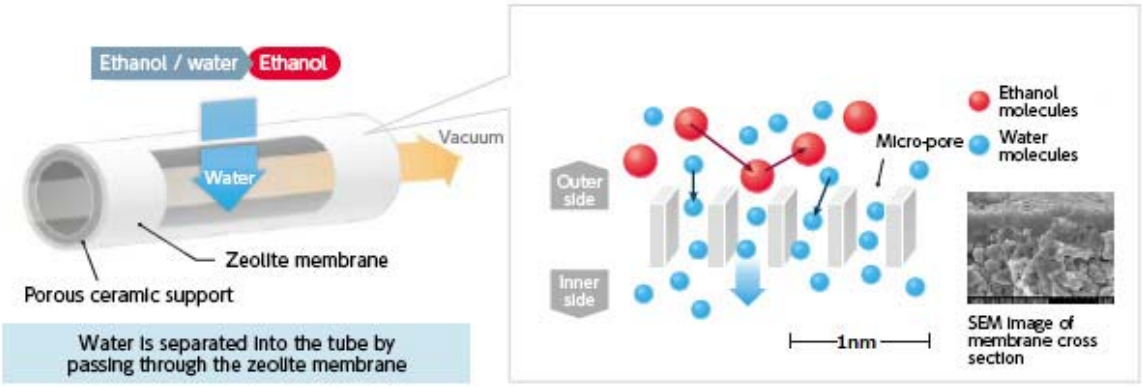

ZEBREX™ dehydration system using a zeolite separation membrane

The manufacturing of bioethanol involves steps such as the pulverization of raw materials and other preprocessing, and saccharification, fermentation, refining (distillation), dehydration and drying. Because the raw materials contain large amounts of water, a tremendous amount of energy is required in the refining (distillation) and drying steps, underscoring the need for energy savings in each process.

Currently, the Pressure Swing Adsorption (PSA) method is commonly used for dehydration at many bioethanol plants. This dehydration process uses zeolite pellets, but the zeolite regeneration process consumes large amounts of energy.

In comparison, the ZEBREX™ dehydration system does not require a regeneration process because it is able to continuously separate water and ethanol using a zeolite membrane. Compared with the PSA process, the ZEBREX™ dehydration system is expected to curtail $CO_2$ emissions by up to 25% and increase production by up to 35%.

▸ ZEBREX™




Schematic diagram of water/ethanol separation using a zeolite membrane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Special Feature

# Initiatives toward the Realization of *KAITEKI*

## 2 The MCC Group's grassroots MOS activities

### Sakaide Plant

The Sakaide Plant is the only production location where the three companies of Mitsubishi Chemical Corporation (MCC), Mitsubishi Plastics, Inc., and Mitsubishi Rayon Co., Ltd. gather together. Each company manufactures coke, alumina fibers and carbon fibers as its main product, respectively. Under *APTSIS 15*, the medium-term management plan that operated from fiscal 2011 through to fiscal 2015, MCC promoted a program called Sakaide Chem-kaeru *APTSIS 15* with 7 stars and activities (hereinafter called 7 stars 15 activities) on a unified basis by the plant, together with Mitsubishi Plastics, Mitsubishi Rayon and Group companies. This program comprised common activities of the plant foundation, such as safety, productive self-maintenance, human resources development and environment. Autonomous MOS activities at the Sakaide Plant are based on 7 stars 15 activities. We heard from Takeshi Komura, General Manager, Planning and Coordination Department, and Fumihito Nakamura, General Manager, Administration Department, about promotion of autonomous MOS activities in addition to *KAITEKI* value they can offer.

**Features of autonomous MOS activities**

- Activities are moving ahead in accordance with the 7 stars 15 activities with the plant advancing in a unified manner, including Mitsubishi Chemical, Mitsubishi Plastics, Mitsubishi Rayon and some Group companies.
- Close dialogue among responsible departments (vertical) or 7 stars promotion groups (horizontal) and each section enabled setting detailed goals applicable for circumstances at each business location.

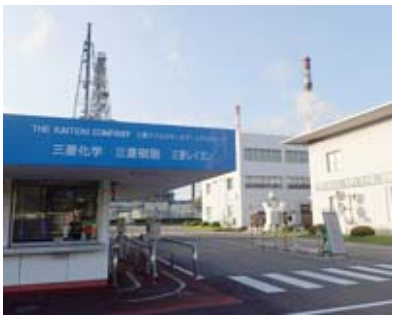
**Examples of characteristic indices**

- Extracted 25 indices based on existing production activities and adding items thought to further strengthen the plant foundation
- Created indices of individual workplace environmental improvement items (such as indoor heat) and naturally dealt with reducing environmental impact
- For productive self-maintenance and well-organized work area (5S) activities, set assessment items common for the whole Sakaide plant that promoted a higher level and raised lower threshold
- $CO_2$ emission volume goals were set for each product group and detailed improvement activities continued

## Plant unified in realizing a “Cycle of Smiles”

**—— How have you moved forward with autonomous MOS activities?**

◆Under the 7 stars 15 activities we have been implementing since fiscal 2011, for the 7 activities of safety, 5S, productive self-maintenance, operational efficiency, human resource development, "Takumi-shudan (craft people's group)" and the environment, we have set responsible departments in line with division of duties, while compilation of opinions and production of planning proposals was conducted by the 7 stars promotion groups horizontally across the plant for each activity theme. In addition to the quarterly vertical production section management reviews, there were also three review report meetings given horizontally by all promotion groups and including the plant manager and managers of each division, and these shared information on activity progress. For areas where progress was lagging, the department responsible and the promotion group support them horizontally and vertically to avoid anything being left behind and striving to raise the standard of the entire plant. Autonomous MOS activities are advancing based on the activities of these 7 stars 15 activities.



The main gate at the Sakaide Plant shared by the three companies of Mitsubishi Chemical, Mitsubishi Plastics and Mitsubishi Rayon

**—— Detailed goals are being set adapted to each section, so please tell us about any improvement measures.**

◆Activity goals are set for each section following close dialogue between the responsible department or promotional group and each section to ascertain the conditions it confronts. For example, when setting the goals for reducing overtime work, the human resource group of administration department repeatedly visits each section in the plant and ascertains the situation before setting an obtainable goal for the section. Taking that section's results into account, a goal is then set for the entire plant. When it comes to actual activities, we provide support for individual employees based on the results of monthly monitoring. In fiscal 2015 there were no incidents of either minor or major trouble occurring at the plant and we achieved the goal set at the start of the fiscal year for the reduction of overtime work.

**—— These are truly activities being conducted on a plant basis, aren't they? By the way, please tell us about "Takumi-shudan" given as one of the autonomous MOS indices.**

◆This refers to small group activity clubs. At the Sakaide Plant, "Takumi-shudan" activities are positioned as activities to strengthen competitiveness and human resource development, and all employees are involved as part of improvement activities. The promotional group with the plant manager acting as the responsible manager will visit each of the 72 groups once a year (in fiscal 2015), and direct conversation on-site helped to promote a higher standard of activity for each group. The Sakaide Plant took part for the fourth consecutive year in the Mitsubishi Chemical Holdings Small Group Activity Report Awards, and the Wakaba club from our plant won a *KAITEKI* Prize for fiscal 2015. Wakaba's activities were on the theme of updating a

video description of the plant. Many customers saw the video, which can be called the "face" of the plant, and making the footage enabled an opportunity to think about the *KAITEKI* values the Sakaide Plant provides, with the result being an outstanding expression of that.

**—— What are the *KAITEKI* values that the Sakaide Plant provides?**

◆Putting it simply, it's a "Cycle of Smiles." I think the Sakaide Plant's *KAITEKI* values are those provided by satisfying customers, making society more fulfilled and more convenient and providing employees with work they can be proud of and find fulfilling, and then having these all work as a cycle. In fiscal 2017, Mitsubishi Chemical, Mitsubishi Plastic and Mitsubishi Rayon will merge, but in this plant the three companies are already conducting activities as one, so renewing the 7 stars 20 activities in conjunction with the medium-term management plan *APTSIS 20*, which started in fiscal 2016, will be promoted as being an extension of what we have done so far. We will strive to maximize the benefits of doing this and aim to become a plant that will continue to provide a "Cycle of Smiles."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Special Feature

# Initiatives toward the Realization of *KAITEKI*

## 2 The MCC Group's grassroots MOS activities

## Kansai Coke and Chemicals Group

Kansai Coke and Chemicals Group is involved in a wide range of businesses centered on coke for steelmaking, but also including carbon products, analysis, precision cleaning, comprehensive services, living environments and cogeneration. Autonomous MOS activities are based on Kansai Coke and Chemicals' corporate philosophy, with each of the four group companies establishing targets in line with their respective business domains, yet with a sense of unity. In this feature, we spoke with four individuals about how those efforts proceed and the *KAITEKI* value the Group provides: Nobuki Takayama, Senior Manager, Kansai Coke and Chemicals Corporate Planning Department; Takayuki Iwanaga, General Manager, Kansai Coke and Chemicals Kakogawa Plant Head of Production Division; Yasutoshi Takata, Assistant Manager, Kansai Coke and Chemicals Human Resources Department; and Kouji Fujita, Senior Manager, Osaka Kasei Corporate Planning Department.

**Features of autonomous MOS activities**

- Activities based on corporate philosophy of "Treat people as assets, treat nature as an asset, and create new value."
- Since fiscal 2013, activities expanded to all four Kansai Coke and Chemicals Group companies, with each company establishing its own indices and targets in line with their respective businesses.

**Examples of featured indices**

- Increase in ratio of low-rank coal (Kansai Coke and Chemicals)
- Supporting more comfortable lives for customers (MC Evolve Technologies)
- Expansion of sales of antibacterial agents for fiber (Osaka Kasei)
- Reduction in self-extinguishing steam (Amagasaki Utility Service)

## Contributing to realizing *KAITEKI* through unified activities by all four Group companies

**—— How have you moved forward with autonomous MOS activities?**

◆We had always undertaken a variety of activities with the aim of achieving Kansai Coke and Chemicals' corporate philosophy of "Treat people as an asset, treat nature as an asset, and create new value." The targets for our autonomous MOS activities are aligned with those activities, so it's not as though we planned anything particularly new. That also means we have implemented them without any additional burden. Targets and progress toward achieving them are reported at management meetings and so on, providing feedback to all employees. Results are also regularly posted on our intranet.

Kakogawa Plant Coke Oven

**—— You have a high rate of achieving your targets for employee satisfaction. Is there something special you're doing?**

◆As I noted earlier, we have always engaged in activities aimed at "treating people as an asset," part of our corporate philosophy, and I think our employee satisfaction rates are a result of that. Specifically, we focus on human resource development, human rights education and promoting communication. In human resource development, we start with one-on-one on-the-job training, as well as 200 hours of training in the first 4 years of employment, and we promote educational activities targeting a wide range of positions. In terms of human rights education, our efforts target all employees across the entire Kansai Coke and Chemicals Group, and nearly every employee participates each year. In promoting communication, we focus on workplace events such as sports tournaments. This is also something the Group companies unite in implementing; a recent example was the Kansai Coke and Chemicals Group Regatta held in August, a major event in which 50 crews participated. The accumulation of these activities over time has brought a gradual, continued rise in employee satisfaction levels, which is reflected in our performance.


Hot coke


From left, Kouji Fujita, Senior Manager, Osaka Kasei Corporate Planning Department, Takayuki Iwanaga, General Manager, Kansai Coke and Chemicals Kakogawa Plant Head of Production Division, and Yasutoshi Takata, Assistant Manager, Kansai Coke and Chemicals Human Resources Department

**—— Autonomous MOS activities at Mitsubishi Chemical Corporation Group set forth an "H" (Health) index, which is rare. What specifically does that involve?**

◆Osaka Kasei, one of our Group companies, handles products including antibacterial and antifungal agents, and has indexed these as contributing to disease prevention. They manufacture and sell antibacterial ingredients for hand soap, as well as antibacterial agents for fibers. The products have a strong reputation among a wide range of customers, antibacterial ingredients for hand soap for quality based on more than 60 years of experience, and antibacterial agents for their superior durability. We believe public health will become an increasingly important global issue, and in *APTSIS 20*, we will focus on expansion outside of Japan.

**—— Finally, tell us about the *KAITEKI* value Kansai Coke and Chemicals can provide.**

◆While our group's business covers a wide range, our foundation is in the manufacture of coal-based coke. While the environmental impact associated with coke making is by no means small, coke is an essential raw material in making steel, and forms the backbone of our society. This is why we focus on efforts to reduce our environmental impact through resource conservation and other measures. However, we do not believe that *KAITEKI* value can be produced simply by providing the products society needs with a lower environmental impact. Given the particularly harsh conditions of the coke making plant, reducing environmental impact needs to be balanced with an effort to achieve a more worker-friendly workplace; only then can we provide *KAITEKI* value in the truest sense.


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Special Feature

# Initiatives toward the Realization of *KAITEKI*

## 2 The MCC Group's grassroots MOS activities

## Mitsubishi Chemical Engineering Corporation

Along with its business in plant construction and maintenance management, Mitsubishi Chemical Engineering is also expanding into new fields such as environmental solutions and healthcare. In autonomous MOS activities, the entire company works to enhance MOS value, primarily through its day-to-day business. In this feature, we spoke with Akio Ishikawa, Deputy Manager of the company's Corporate Planning Department, about the unique MOS value an engineering company can provide.

**Features of autonomous MOS activities**

- Shifting to early involvement from construction engineering, approaching performance product fields and overseas business, while strengthening efforts in the environmental solutions and healthcare fields then making that progress visible.
- Contributing to reduced environmental impact through engineering.
- Initiatives to strengthen safety and quality assurance, the cornerstones of business progress.

**Examples of featured indices**

- Ratios of sales and personnel in environmental solutions and healthcare fields.
- Construction landfill disposal rate.

**—— How have you moved forward with MOS activities by department?**

◆Our business is basically providing engineering services to companies in the Mitsubishi Chemical Holdings Group (MCHC Group). Therefore, we do not consider autonomous MOS activities to achieve our targets as a new challenge, we simply monitored the results of activities associated with our ordinary business. Our indices and targets have been determined by our in-house *KAITEKI* Promotion Committee, organized by representatives from each department. The committee conducts management reviews, and provides feedback to all employees regarding the results of our activities.

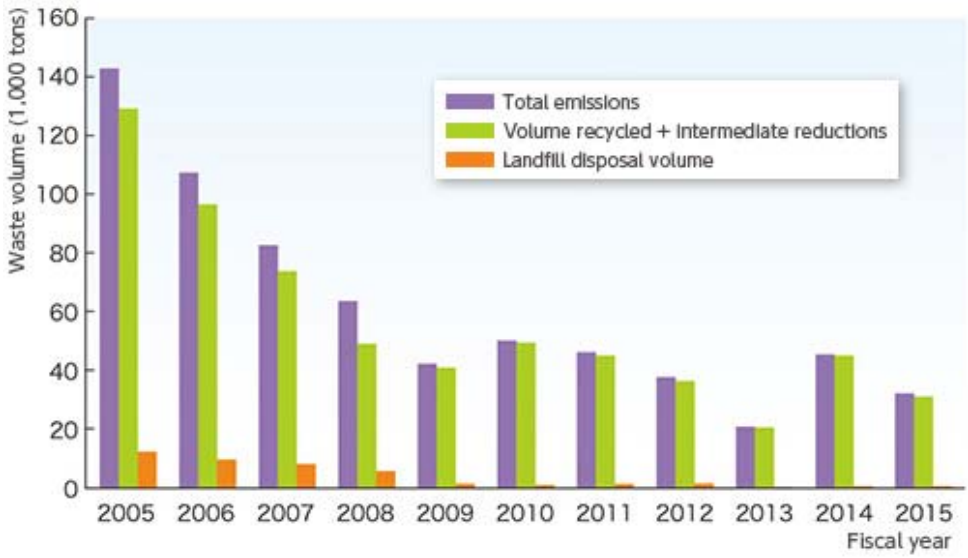
High-purity NMP recycling system used in the manufacture of lithium-ion batteries

**—— Could you tell us about any difficulties you faced or things devised in conducting activities?**

◆Under *APTSIS 15*, even though we had established indices for reducing $CO_2$ emissions, we are entirely dependent on the investment plans of the MCHC Group companies and our own customers, it was difficult to refer to these $CO_2$ reduction efforts as being driven by our initiative, and also because of differences between $CO_2$ calculations by each department, we have removed this index from our autonomous MOS activities as of fiscal 2016. However,

we will continue to observe trends regarding methods of computing and assessing $CO_2$ emissions involving the construction industry, and will take a medium- to long-term view of the issue.

◆We consider that the construction waste generated by our business has the largest environmental impact, therefore one of our targets is to bring that waste to zero emission (see figure). With the understanding of our customers in the MCHC Group, we are working to reduce the landfill disposal rate as targeted as an index of construction waste emissions, we have been monitoring the figures in real time, and entrust waste recycling to treatment facilities. Waste is an environmental issue as well as a compliance issue, like illegal dumping and other waste problems. This is why we are focusing our efforts on ensuring proper disposal complying with the law, by providing electronic versions of our manifesto and by educating our construction site managers (CMs), even though we have not made an index for waste disposal in our autonomous MOS activities.




Change in volume of industrial waste processed

**—— It sounds as though a lot of efforts go into your autonomous MOS activities that don't show up on your numerical indices. By the way, among the indices, there were some related to the environmental solutions field. Could you describe that business?**

◆In the environmental solutions field, we provide customers with solutions to environmental issues, including resource-saving recycling, energy savings, and reduction of environmental impact. We currently offer organic solvent recycling systems using dehydration membranes and solar power generating systems. We also hope to begin working on rooftop solar power generation systems, lightweight panels for household consumption that can be placed on carports or anywhere else, which feature a power conductor installed separately so that even if one or more panels becomes disabled, the other panels can be used continuously.

**—— Finally, could you tell us what Mitsubishi Chemical Engineering can provide as the *KAITEKI* value?**

◆Without a doubt, contributing to safety and security through technology is at the core of the *KAITEKI* value we provide. To further improve our customer satisfaction, we believe our mission is to shift our business from conventional construction engineering to extensive engineering involvement, so that we can offer processes that can reduce $CO_2$ emissions as well as energy consumption with an intensive study in the stage of engineering, procurement and construction (EPC) services. To achieve this, we need to proactively incorporate new information technology such as IoT and AI, then we can embody a more advanced level of EPC contributing toward the pursuit of *KAITEKI* value.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# Management Structure

## Basic concept

As a member of the Mitsubishi Chemical Holdings Group (MCHC Group), the Mitsubishi Chemical Group (MCC Group) follows the basic guidelines for management of the Group determined by MCHC, and shares the management guidelines and management strategies of the Group determined by MCHC. MCC 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 Charter of Corporate Behavior), 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

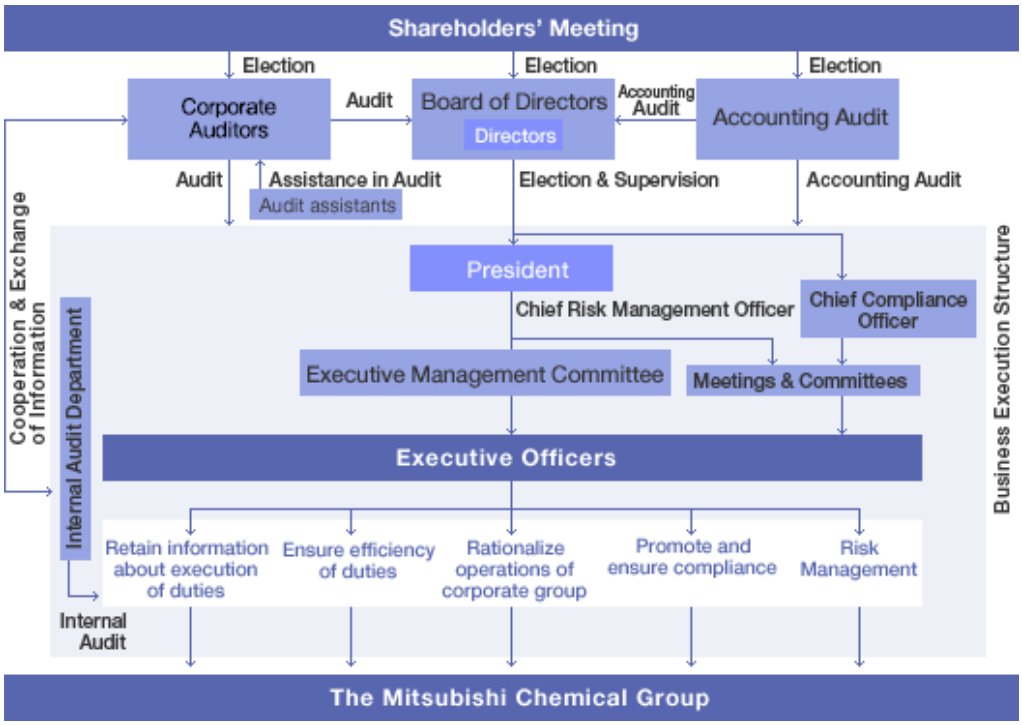
# Corporate Governance

## Corporate Governance

The Mitsubishi Chemical Group's (MCC Group) 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.

MCC operates a basic corporate governance structure outlined in the chart below. 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 June 23, 2016)**



## 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 MCC Group and fulfill its social responsibility, are proposed at the Shareholders' Meeting, and are elected through a shareholders' resolution.

## 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 MCC 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

MCC has Corporate 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. Moreover, MCC does not have a Board of Auditors, but has a Corporate Auditors Liaison Committee, which holds meetings attended on a voluntary basis for coordination and cooperation among corporate auditors. As a general rule, corporate auditors meet once a month at the Corporate Auditors Liaison Committee to discuss and agree on important matters concerning audits such as audit plans and the like. As of the end of June 2016, MCC has five corporate auditors, including one external auditor. Corporate auditors, the accounting auditor and Audit Office cooperate closely when performing audits, exchanging opinions on their respective audit processes and audit results.

## Meetings, etc.

The Company has a number of committees and meetings, including the Compliance Promotion Committee, the Risk Management Committee and the RC (Responsible Care) Promotion Meeting. Important matters are referred or reported to the Board of Directors or the Executive Management Committee.

Moreover, MCC employees 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 and union members led by the Labor Federation Central Executive Committee Chairman attend the conference and share their opinions candidly and honestly.

Management Structure **Internal Controls**

# Basic policy on establishment of internal control system

Mitsubishi Chemical Corporation (MCC) has established an internal control system comprised of the likes of compliance, risk management, ensuring efficiency and management and archiving of information for the MCC Group including Group companies based on the basic policies established by the Board of Directors. By doing so, MCC assures appropriate operations and strives to enhance corporate value. The Board of Directors reports and verifies the internal control system and the implementation status once a year, as well as continues to strengthen and improve the system as needed.

## Basic policy on establishment of internal control system

**1. System to ensure that execution of duties by directors and employees complies with laws and regulations and the Articles of Incorporation**

1) The Mitsubishi Chemical Holdings Corporation Group Charter of Corporate Behavior, which governs the Mitsubishi Chemical Holdings Group (MCHC Group) to which MCC belongs, shall constitute the basic rules regarding compliance for MCC and the corporate group of which MCC is the parent company under the Japanese Companies Act (the MCC Group).

2) The Board of Directors, in conformity with the regulations of the Board of Directors and other relevant rules and regulations, makes decisions on important MCC Group matters and directors oversee and supervise each other's activities. Corporate auditors, in conformity with auditing standards for corporate auditors, audit the execution of duties by the Board of Directors in such ways as attending Board meetings and other important meetings.

3) Internal controls over the reliability of financial reporting are established, and appropriately operated and managed.

4) An MCC Group Compliance Promotion Program will be established in compliance with the Group Compliance Promotion Policy and related regulations. The program will cover a promotional framework for compliance, an awareness-raising and training program, an auditing and monitoring system, a reporting hotline, and other matters. An executive officer in charge of compliance promotion will be assigned to appropriately operate and manage the program.

**2. Regulations related to management of the risk of loss and other systems**

The MCC Group will establish a risk management system with the President as the Chief Risk Management Officer and in compliance with Group risk management regulations and related regulations to prevent the occurrence of a significant risk, or to minimize damage in the event of a risk occurring, in conjunction with the MCC Group's business activities, and will appropriately operate and manage the system.

**3. System to ensure the efficient execution of duties by directors**

1) The Board of Directors will promote business based on business strategies formulated for each business

segment in accordance with the MCHC medium-term management plan, establish specific management goals, such as a fiscal year budget, in Board of Directors meetings and strive to achieve these goals.

2) The MCC Group has adopted an executive officer system to separate management and execution, and we maintain rules governing the Board of Directors and other decision-making organs, as well as such areas as the authority of individual employee positions and departmental responsibilities to ensure decision making about management matters and subsequent implementation of policy is appropriate and efficient.

**4. System for archiving and management of information related to the execution of duties by directors**

A system conforming to MCHC and the MCC Group's information security policies, information management regulations and related regulations, will be established to archive and manage Board of Directors meeting minutes, management meeting review decisions, circulars and other documents and electronic records related to the execution of duties by directors, and to enable these to be viewed by directors and corporate auditors.

**5. System to ensure appropriate operations by the corporate group**

The MCC Group will conduct management administration (including management of management objectives, reporting and approval of important items and Group internal audits) conforming to Group management regulations and related regulations by sharing MCHC Group internal control policies and systems, including compliance and risk management, to ensure appropriate operations within the MCC Group.。

**6. System for ensuring corporate auditors' audits can be carried out effectively**

1) Directors and employees, in accordance with basic standards for corporate audits, report to corporate auditors on important management issues in the MCC Group (including facts or misconduct that could cause substantial damage to the Company, or significant facts that violate laws or regulations or the Articles of Incorporation).

2) Stipulations are made to ensure that MCC Group directors or employees who file reports will not suffer any disadvantageous treatment.

3) Based on a request by a corporate auditor, employees may be assigned to a corporate auditor and shall assist in auditing under the corporate auditor's instruction, and corporate auditors must approve personnel decisions (including transfers and evaluations) related to those assigned to corporate auditors.

4) To assure effectiveness in other matters related to corporate auditors' audits, auditors shall regularly meet members of the executive body, including the President, collaborate among auditors and audit and supervisory divisions, exchange information and take other actions.

5) The Company will bear the cost of those expenses incurred by corporate auditors or those assigned to corporate auditors as part of expenses required for auditing.

Management Structure

# Risk Management

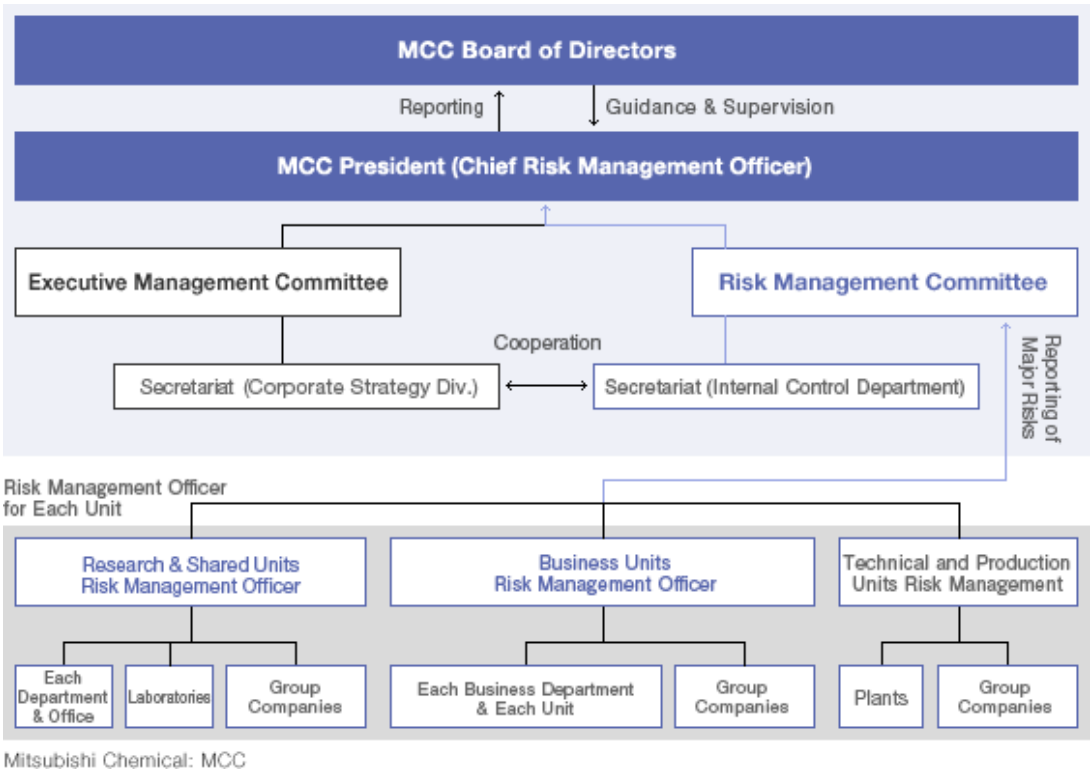
## Basic policy

The Mitsubishi Chemical Group (MCC Group) conducts business and operations while always accurately recognizing and evaluating risks that could have a significant impact on the Group, responds to risks appropriately, and has stipulated basic regulations for risk management, promotes risk management activities and formulated a policy to act fundamentally to minimize the impact of the risks on society and the MCC Group, including stakeholders.

## Risk management structures

The MCC Group has set up a risk management structure headed by the MCC President as the Chief Risk Management Officer, developing the risk management system for the entire MCC Group and working to ensure that it operates and manages risk appropriately and smoothly. Officers in charge of each of business, research, technical and production, sales, corporate and other divisions, develop and operate the risk management systems of their assigned divisions, including MCC Group companies, and provide them with guidance and oversee their risk management. Meanwhile, the Risk Management Committee, established to support the Chief Risk Management Officer as a supplementary decision-making organ, meets to regularly confirm the operations of the risk management system of the MCC Group, and deliberates on important matters relating to the development and operation of the risk management system, of management objectives as regards grave risks, risk countermeasures, and other matters. Depending on the details of the risk, the Executive Management Committee also deliberates on setting business portfolio and resource allocation, capital investment and investment and financing based on this. The Risk Management Committee regularly reports to the MCC Board of Directors and the MCHC Chief Risk Management Officer regarding the operation status of the risk management system.

- **Risk Management Structure of the MCC Group**




Mitsubishi Chemical: MCC

## Identification of risks and periodical reviews

At least once a year in principle, the MCC Group newly identifies risks facing each business division and review progress of the response to continued risks.
Risks are identified from a comprehensive viewpoint and risk categories stipulated into broad categories such as external risks from sources like natural disasters, international politics and legal and regulatory changes; 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 degree of impact on the MCC Group. We conduct risk assessment using a matrix of impact forming one axis using indices of economic loss, human loss, or decline in public trust, and a frequency axis.
In addition, priority risks that are deemed to require attention from a MCC Group-wide management perspective, including risks identified in light of various social conditions, the Risk Management Committee will confirm their status and advance necessary responses.

In fiscal 2015, priority risks were decided and examined by each division and those identified as requiring a response from the entire Company included safety risks at the time of production and transport of chemical products, business continuity risks for key products, risks related to serious compliance violations, risks related to overseas business development, and information security risks, including information leaks and cyber-attacks.

In fiscal 2016, we will continue to operate a risk management system to identify and reassess risks and use this to maintain and enhance corporate value from the viewpoint of being sensitive to the changing social situation.

## Formulating and putting into effect a Business Continuity Management Systems (BCMS)

MCC took steps to formulate a Business Continuity Plan (BCP) to minimize the impact on its customers and business partners in the unlikely event of a natural disaster or a major accident.

Specifically, we drew up a countermeasures manual to minimize damage by a massive earthquake or a new infectious disease, and formulated BCPs to minimize impact on supply of key products to maintain social functions, as well as prepared alternative arrangements for the continuation of important business matters to enable departments to continue important operations even in the event that our head office suffers an earthquake with its epicenter in the Tokyo metropolitan area. These initiatives are in line with ISO 22301, the international standard for Business Continuity Management Systems (BCMS).

Looking ahead, the MCC Group plans to have even stronger BCMS by strengthening skills and response capabilities through implementing regular training, promoting reinforced collaboration capabilities among associated divisions and other means.

Management Structure **Compliance**

## Compliance

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

Accordingly, the MCC Group has in place a Compliance Promotion Program that comprises among other things basic regulations concerning compliance, structures for compliance promotion, education and training programs, auditing and monitoring systems as well as an employee consultation and reporting hotline. Based on this program, the MCC Group works to ensure appropriate operations and management.

Our goal is to live up to the expectations of the relevant stakeholders by maintaining a strong sense of corporate social responsibility, ensuring strict compliance in our day-to-day operations, and providing valuable goods and services to society.

**Compliance Promotion Program**


(As of April 1, 2016)

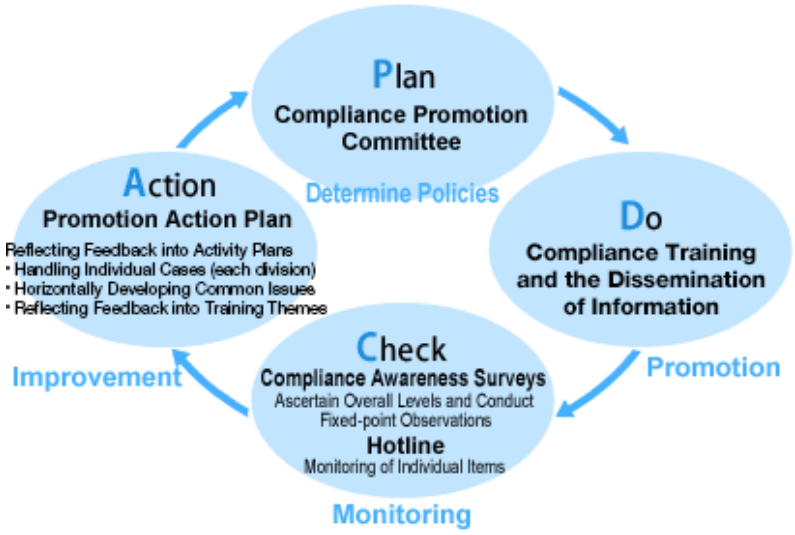
MCC continues to conduct a variety of educational training and awareness-raising activities in Japan and overseas in order to further instill awareness of compliance.

As a main activity for fiscal 2015, we conducted group training on 20 occasions for compliance promotion officers including Group companies as well as compliance promotion leaders on the theme of open workplaces and practical compliance, and about 650 people attended. The training was not merely lecture-type lessons, but also incorporated role-playing using realistic case studies that we prepared in-house, and these were used to instruct participants on the importance of compliance and worked out ways to actually feel the difficulty of making decisions and other

actions when confronted with such situations. In addition to this, compliance online training was conducted for all Group employees (about 18,800 people) and management employees (about 4,000 people) as we strived to spread compliance awareness to each and every employee. We also raised awareness and knowledge of important compliance risks including bribery, the Anti-Monopoly Act and information security through such ways as holding risk confirmation interviews with sales employees and mock drills for targeted email attacks.
From an overseas perspective, we entrusted the regional control companies of Mitsubishi Chemical Holdings Corporation (MCHC) with regional oversight in the Americas, Europe and China, and training and awareness-raising was carried out, taking into account the status of each region. For other regions (Taiwan, Singapore, Thailand, Indonesia, India and South Korea), we bolstered initiatives, including introduction of a regional leader system and by holding local and online training.

In addition to these awareness-raising and promotional activities, to check the development of a compliance culture, we conducted monitoring using our employee surveys. In Japan, we included questions about compliance in the annual employee survey, receiving responses from some 20,000 employees. Similarly, we conducted our compliance perception survey among employees of the overseas Group companies, and received replies from some 2,800 employees. A detailed analysis was undertaken of the results of surveys and questionnaires. This analysis is fed back to all those concerned and issues and problems detected are used effectively in such ways as forming measures for compliance or being reflected in training program themes.
Looking at continued compliance initiatives until now, we believe that "improvement of knowledge and awareness," "a working environment with good communication," and "the management of superiors" are important for firmly establishing compliance. Accordingly, we will continue to further strengthening our training and other efforts in this area.

**The PDCA Flow**



Management Structure

# Basic Regulations

The Mitsubishi Chemical Group (MCC Group) works to promote compliance based on Mitsubishi Chemical Holdings Group Charter of Corporate Behavior, a compliance regulation shared by members of the Mitsubishi Chemical Holdings Group.
Overseas, the MCC Group is translating into local languages the Mitsubishi Chemical Holdings Group Charter of Corporate Behavior, which serves as the basic regulations, and the codes of conduct compatible with individual countries' laws and social norms.

## Mitsubishi Chemical Holdings Group Charter of Corporate Behavior

Based on our Group philosophy, "Good Chemistry for Tomorrow-Creating better relationships among people, society, and our planet," we shall contribute to the realization of *KAITEKI* through our corporate activities. The term *KAITEKI* signifies achieving true sustainability where we create comfort for people as well as for society and the Earth.
To this end, we shall act based on the concept of MOS (Management of Sustainability) with sound ethics and good common sense in every aspect of our corporate activities as outlined below, to ensure sustained development as a corporate group that engenders society's trust.

### Awareness and Responsibility

We shall contribute to the realization of *KAITEKI* through our business with a keen sense of corporate social responsibility, based on the fundamental understanding that the foundation of our corporate activities is society's trust and confidence in us.

### Accountability and Transparency

We shall, recognizing the importance of accountability in corporate activities, preserve transparency in such activities, disclose information appropriately, and always maintain a stance of openness, both internally and externally.

### Legal Compliance and Fairness, Equitability, and Integrity

We shall comply with laws and international standards and shall hold ourselves to the highest ethical conduct at all times. In addition, we shall always adopt an attitude of fairness, equitability, and integrity towards customers, business partners, shareholders, government agencies, local communities, and other stakeholders. This attitude shall also apply to our dealings with each other.

### Valuing Stakeholders

We shall respect and communicate closely with all stakeholders including customers, suppliers, shareholders, business partners, government agencies, local communities, and employees, and consider the outcomes of such communication in our corporate activities.

### Respecting Human Rights

We shall respect the dignity and rights of all people, and shall not discriminate against people unfairly on the

basis of race, sex, religion or other protected status. We shall also expect our suppliers and other contractors to refrain from any infringement of human dignity and rights or discriminatory practices.

**Employment and Labor**

We shall not engage in any form of forced, compulsory, or child labor, and shall require our suppliers and other contractors to adhere to the same standards. Mitsubishi Chemical Holdings Group managers at all levels shall respect human diversity and create working environments where employees can exercise their abilities to the utmost in safe and healthy settings, in order to make optimal use of human resources. Managers shall build sound relations with employees through close dialogue, and shall respect employees' rights, including freedom of association and the right to collective bargaining.

**Environment and Safety**

We shall strive to reduce environmental impact and protect the environment and ecosystems in our operations, in addition to supplying environmentally friendly products and services. Recognizing that the health and safety of our employees and communities in which we do business form the foundation for the very existence of our company and that we have a corporate social responsibility to assure the health and safety of others, we shall continue to ensure safe business activities.

**Fair Business Practices**

We shall conduct business fairly and sincerely, adhering to ethical principles and refraining from unfair trade practices and any form of bribery or corruption, to contribute to sound social and economic development through fair competition in the market. We shall refuse to work with any group, organization or individual engaged in unlawful activities, and under no circumstances shall we have any relations with anti-social influences.

**Customer Satisfaction**

We shall constantly strive to satisfy our customers by keeping the promises made in contracts with them, doing our utmost to ensure the safety and quality of the products and services we supply, and engaging in dialogue and R&D.

**Information Management**

We shall, in the course of our corporate activities, maintain appropriate records and make reports as required by law and regulation. We shall manage information carefully to prevent leakage of confidential data relating to customers, business partners, or our own business.

**Science and Technology**

We shall advance R&D by bringing together outstanding researchers from Japan and overseas, and contribute to the realization of *KAITEKI* through innovation. We shall recognize the importance of our own and others' intellectual property rights and respect such rights.

**Community Involvement**

We shall contribute broadly to society through our businesses. In addition, we shall respond to the desires and expectations of local communities by enhancing our understanding of their cultures and customs and acting as a good corporate citizen.

**Shared Standards**

Mitsubishi Chemical Holdings Group managers shall recognize their responsibility to embody the spirit of this

charter and shall ensure that employees are fully aware of its content. We shall expect our suppliers and other business partners to share all the standards set out in this charter, including but not limited to standards relating to human rights, employment, and labor.

**<Appendix>**

1. This charter shall apply to all members of the following companies:
   (1) Mitsubishi Chemical Holdings Corporation
   (2) Mitsubishi Chemical Holdings Corporation subsidiaries (the juridical person, the management of which is controlled, or, the majority of all votes in which are owned, directly or indirectly, by Mitsubishi Chemical Holdings Corporation)
   (3) Companies where Mitsubishi Chemical Holdings Corporation is otherwise deemed to directly or indirectly take a leadership role on the grounds of its shareholding ratio, involvement in personnel management, etc.
2. This charter shall be revised or repealed by resolution of the Mitsubishi Chemical Holdings Corporation board of directors. Note, however, that minor changes may be decided by the President of Mitsubishi Chemical Holdings Corporation.

# Management Structure Promotional Structures

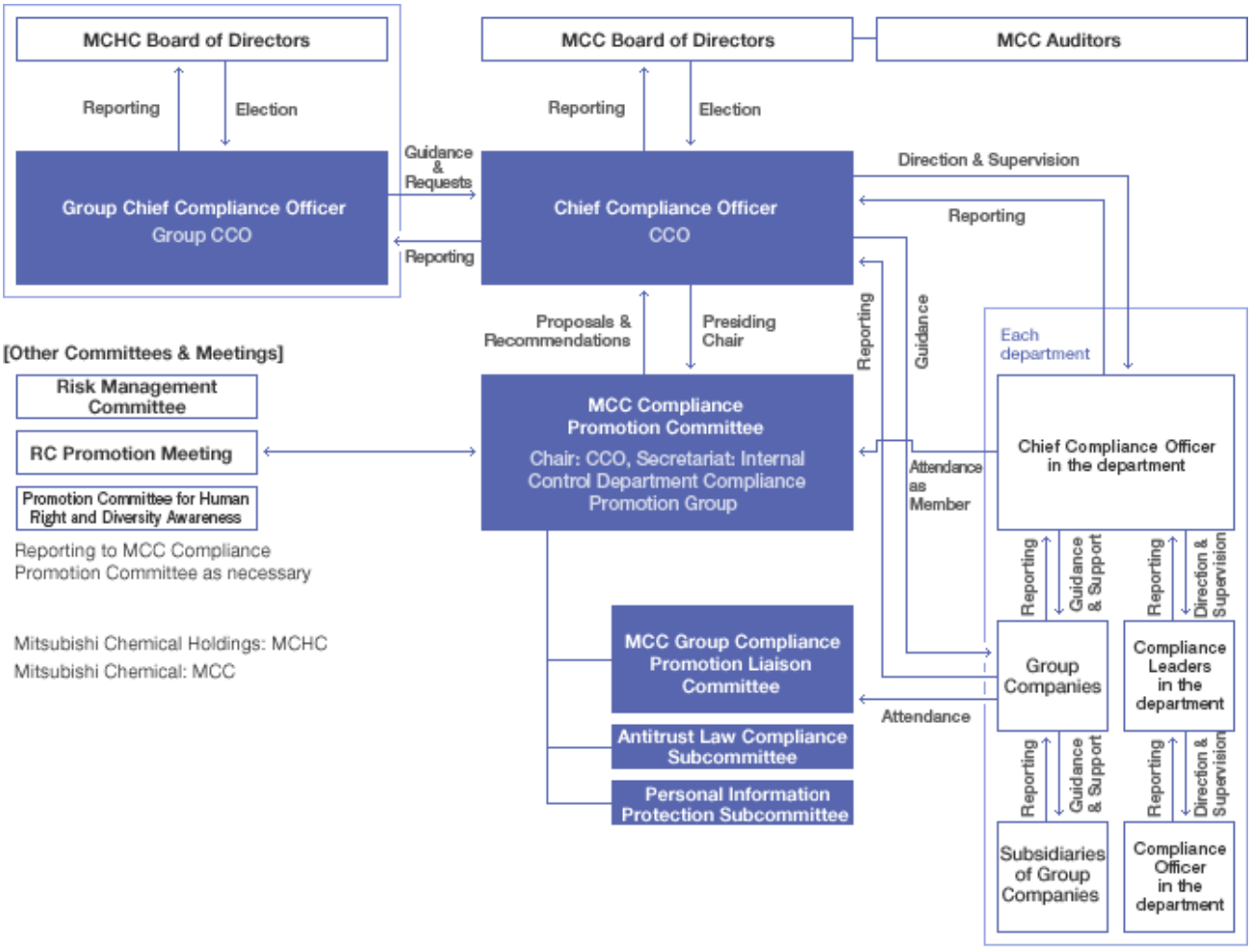
The Board of Directors of Mitsubishi Chemical Corporation (MCC) appoints the Chief Compliance Officer (CCO).

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 reports to the Board of Directors and Mitsubishi Chemical Holdings Corporation's CCO on the status of compliance and important 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, and responds to violations. 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 appointed to every department. Their foremost mission is to ensure and promote compliance in each department.

**Compliance Promotional Structures of the Mitsubishi Chemical Group**



# Management Structure Monitoring & Reporting

## Auditing & Monitoring structures

Mitsubishi Chemical Corporation (MCC) endeavors to gain an understanding of the status of compliance promotion and actual compliance conditions at MCC's departments, offices, branches, branch offices, and Group companies mainly through regularly implemented internal audits, Control Self-Assessments (CSAs), Employee Surveys, and reports on activities provided by compliance promoters.

Notably, Employee Perception Surveys are positioned as a "health checkup" for the organization as well as a tool for directly listening to the voice of the Group's members. As such, the survey's findings are actively put to good use in fostering a healthy and sound organizational culture.

## Employees' hotline

The MCC Group has established an employees' hotline, providing employees with a way to contact the Internal Control Promotion Department (accessible via dedicated toll-free telephone number, dedicated e-mail address, internal database or postal mail) or an outside lawyer (accessible via telephone or postal mail) 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 the information they provide will be treated confidentially, they will not be subjected to disadvantageous treatment, and their privacy will be protected. An investigative team acts upon the information provided. Any compliance problems identified are dealt with and resolved promptly under the direction of the CCO. In fiscal 2015, the hotline received 40 reports and inquiries. In terms of consulting routes, approximately 70% of the cases were handled by the Internal Control Promotion Department, while the remaining 30% of cases were handled by the outside lawyer.

## Response to compliance violations

In the event of a compliance violation, the department manager and the departments overseeing compliance will work closely together to make an appropriate initial response to rectify or otherwise deal with the situation. In addition, an investigation to determine the cause is carried out and measures to prevent a recurrence are implemented. 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 Group company to which the employee belongs. If it is deemed necessary to prevent a recurrence based on the severity and other aspects of the compliance violation, the CCO may disclose facts of cases and details of the disciplinary action within the Group, on condition that privacy and human rights are taken into consideration.

Management Structure

# Intellectual Property Management

## 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

Management Structure

# Information Security

## Basic Policy on Information Security

Information management at Mitsubishi Chemical Corporation (MCC) is undertaken according to the Information Security Policy of the Mitsubishi Chemical Holdings Corporation Group. MCC works to raise awareness of the importance of protecting information assets and the responsibility for doing so among all of its members, while to maintain and improve the effectiveness of information security as part of efforts to prevent such problems as business interruption, and the loss of society's trust due to the leak or falsification of information.

## Main Activities

Under the Information Security Committee, the Mitsubishi Chemical Holdings Corporation Group (MCHC Group) is making Group-wide efforts to ensure the maintenance and management of information security as well as the enhancement thereof. In addition, the Information System Security Subcommittee has been set up under the Information Security Committee to lead efforts to maintain and enhance information system security. MCC conducts activities as a member of the Information Security Committee and the Information System Security Subcommittee.

## Defensive Measures Against Threats to Computer Networks

The MCHC Group implements network security measures on both the technology and management aspects. Through the Information Security Committee and the Information System Security Subcommittee, the MCHC Group addresses incidents and shares information on a Group-wide basis. Looking at technology measures, the Group implements entrance safeguards such as e-mail filters, as well as exit safeguards including measures triggered when a network user seeks to obtain access outside the network. In terms of management measures, the Group regularly urges caution against suspicious e-mails and conducts training drills.

## Measures to Prevent Leaks of Personal Information and the Confidential Information of Customers and Third Parties

MCC has established the Mitsubishi Chemical Corporation Rules on Handling Personal Information, in conjunction with working to strictly enforce compliance with the Act on Protection of Personal Information, the Act on the Use of Numbers to Identify a Specific Individual in the Administrative Procedure, and other relevant laws, regulations and guidelines.

As part of measures to prevent information leaks, MCC is taking steps including strengthening the management of electromagnetic recording media and restricting access to the Internet.

## Status of Internal Education and Training and Audits Concerning Information Security

MCC regularly conducts awareness raising and training events to strictly enforce information management among all members of the MCC Group. Moreover, every year, MCC implements e-learning-based information security training, as well as information security training for new employees.

- The Mitsubishi Chemical Holdings Corporation Group Charter of Corporate Behavior

# 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 (MCC 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 MCC 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 MCC as stipulated by the Japanese Companies Act, for which Group performance data are not 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 MCC Group companies, principally companies with operating divisions that handle chemical products participate as MCC Group Companies Promoting RC Activities.

**Performance Products domain**

- ○Arkema Yoshitomi, Ltd.
- ○Japan Coating Resin Corporation
- ○Shinryo Corporation
- ○Nippon Kasei Chemical Co., Ltd.
- ○The Nippon Synthetic Chemical Industry Co., Ltd.
- ○Mitsubishi Chemical Analytech Co., Ltd.
- ○Mitsubishi-Kagaku Foods Corporation
- ○Mitsubishi Kagaku Media Co., Ltd.
- ●Changshu MC Ionic Solutions CN Co., Ltd.
- ●MC Ionic Solutions UK, Ltd.
- ●MC Ionic Solutions US, Inc.
- ●Mitsubishi Chemical Infonics Pte Ltd.
- ●Mitsubishi Kagaku Imaging Corporation
- ●Qingdao Anode Kasei Co., Ltd.
- ●Tai Young Chemical Co., Ltd.
- ●Tai Young High Tech Co., Ltd.
- ●Resindion SRI

**Industrial Materials domain**

- ○Echizen Polymer Co., Ltd.
- ○M Commerce Co., Ltd.
- Kashima-Kita Electric Power Corporation
- KASHIMA Power Corporation
- ○The Kansai Coke and Chemicals Co., Ltd.
- J-Plus Co., Ltd.
- TM Air Co., Ltd.
- ○Japan Polyethylene Corporation
- ○Japan Polychem Corporation
- ○Japan Polypropylene Corporation
- ○Japan Unipet Co., Ltd.
- Mitsubishi Engineering-Plastics Corporation
- Asahi Kasei Mitsubishi Chemical Ethylene Corporation
- YUPO Corporation
- ○RHOMBIC CORPORATION
- ●MCC Advanced Polymers (Ningbo) Co., Ltd.
- ●MCC PTA INDIA
- ●Pt. Mitsubishi Chemical Indonesia
- ●Mitsubishi Chemical Performance Polymers, Inc.
- ●Mitsubishi Chemical Performance Polymers (China) Co., Ltd.
- ●Mitsubishi Chemical Performance Polymers (Thailand) Co., Ltd.
- ●Mitsubishi Chemical Performance Polymers Europe
- ●Mitsubishi Chemical Polimeros de Desempenho Ltda.
- ●Ningbo Mitsubishi Chemical Co., Ltd.
- Sam Nam Petrochemical Co., Ltd.
- Sam Yang Kasei 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

Responsible Care Activities **RC Management**

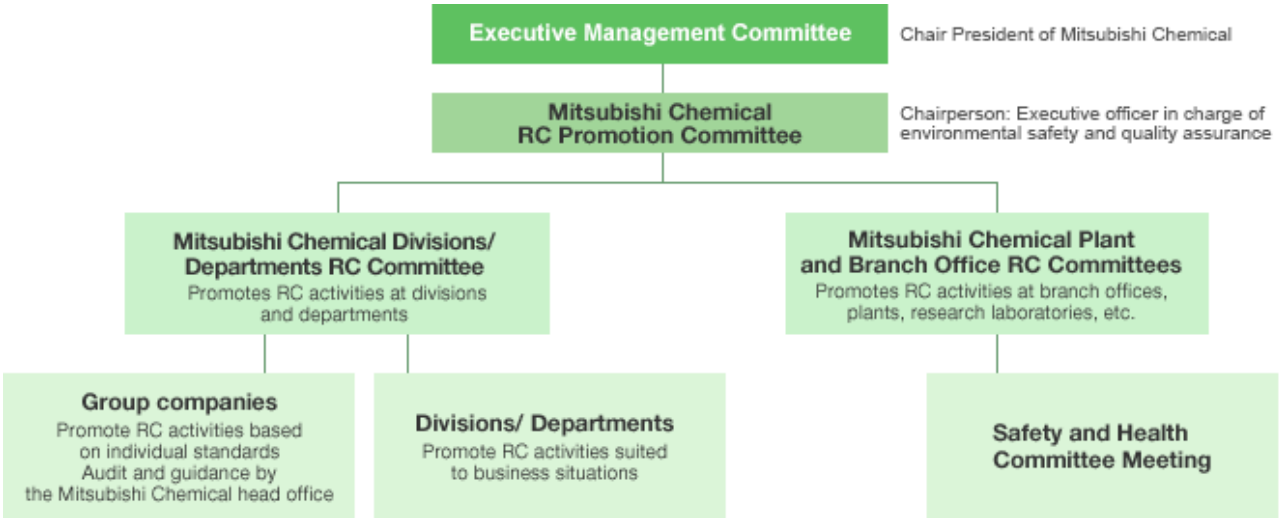
## Policy Responsible Care (RC) activity promotion organization

The Responsible Care action plans for Mitsubishi Chemical Corporation (MCC) and the MCC Group are deliberated on and decided in the Executive Management Committee chaired by the MCC President and attended by the executive officers in charge of manufacturing, research, operations and common divisions every year. The draft Responsible Care action plans for the Executive Management Committee agenda are deliberated on and decided in the Mitsubishi Chemical RC Promotion Committee, chaired by an executive officer in charge of environmental safety and quality assurance, with those attending meetings including heads of manufacturing, research, operations and common divisions. Finally, on the basis of the Responsible Care action plan decided by the Executive Management Committee, the respective MCC divisions and Group companies draw up their own action plans for engaging in Responsible Care initiatives, tailored to their operational specifics, industries and business segments.

This framework for promoting Responsible Care practices is used by the MCC Group and MCC in their efforts to check that Plan-Do-Check-Act (PDCA) cycle procedures are applied to Responsible Care initiatives and in ensuring that improvements are implemented as needed.

- **RC activities of the MCC Group**

RC promotion organization at MCC and the MCC Group




## Fiscal 2015 Mitsubishi Chemical Corporation Group Responsible Care action plan

### Safety, environmental protection, and quality assurance

**Continuation of RC activities to eliminate weaknesses in each workplace**

1. The design of measures to prevent recurrence of accidents and serious trouble (their effectiveness and acceptability)
2. Measures to prevent accidents and serious trouble beforehand, and their firm establishment in the corporate culture
3. Raising the awareness of employees as professionals in the front line workplaces (establish awareness of responsible actions)

### Chemicals management

**Continuation of chemicals management activities to eliminate weaknesses in each business location**

1. Meeting the requirements of chemical substance regulations and strengthening management of chemical substances (strengthen overseas response)
2. Strengthening of information management systems (respond to laws, make information management more efficient)
3. Strengthening of risk assessments and information transmission (promote management of risk base)

Activities and Results

## RC audit

MCC performs Responsible Care audits (RC audits) of the business locations and plants of MCC and the MCC Group geared toward confirming the progress made by RC activities and ensuring their ongoing improvement.

In fiscal 2015, MCC conducted RC audits at seven business locations. The auditors examined accidents or trouble that had occurred since the previous audit to confirm the status of implementation of measures to prevent their

recurrence and prevent accidents or trouble occurring beforehand and to confirm compliance with laws and regulations, with their focus on whether or not the PDCA cycle had been applied to the fiscal year policy for RC activities: "Continuation of RC activities to eliminate weaknesses in each workplace."
As a result of the audits, multiple cases in which the CA (check, act) part of the PDCA cycle was not implemented sufficiently were found so the auditors gave instructions for improvement in each individual case.
Furthermore, at each of the business locations exchanges of opinion were held by the heads of all of the manufacturing sections. In the exchanges of opinion, "What action does the manufacturing division manager take to activate and get into the habit of hazard prediction activities?" was chosen as the common theme for all of the business locations, and the participants held lively exchanges of views about their daily innovations to deal with this issue and any difficulties they were facing. A document summarizing the results of the exchanges of opinion at all of the business locations was distributed to all of the people who attended the discussions and put to use for running the sections.

In fiscal 2015 audits of the MCC Group companies were conducted at eight companies, including five overseas companies. The auditors confirmed whether or not the PDCA cycle had been applied to "Promotion of RC activities to eliminate weaknesses in each workplace" and also carried out confirmations regarding the status of development and application of rules and standards as well as their status of implementation, the status of education and training, the status of communication in the workplace, and other matters. As a result of the audits, cases in which the CA part of the PDCA cycle was not implemented sufficiently and cases in which rules and standards were not applied sufficiently were found so the auditors gave instructions for improvement in each individual case.
Furthermore, in fiscal 2015 we started assessments using The Japan Safety Competency Center's safety assessment methods at business locations.

Through these RC audits, the MCC Group is aiming to improve the level of its RC activities.

# Responsible Care Activities Process Safety and Disaster Prevention

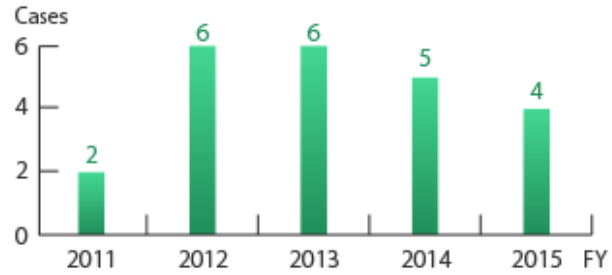
## Policy Activities targeting zero facility-related accidents

**MOS Indices** C-3: Earn recognition of corporate trust ＞Find out more

Having established the policy that securing the environment and safety is the underlying principle of its business activities, the Mitsubishi Chemical Group (MCC Group) pursues disaster prevention initiatives as one of its five Responsible Care mainstay activities undertaken based on our Corporate Philosophy, "Good Chemistry for Tomorrow." In fiscal 2015, we engaged in process safety and disaster prevention efforts under our goal of zero serious facility-related accidents. These efforts were tailored to the distinctive characteristics of the work place and had as their top priority the institution of measures to prevent the recurrence of accidents and measures to prevent accidents.

Initiatives we pursued to prevent the recurrence of accidents included using accident case studies of not only MCC, but of other companies, as lessons and reconfirming whether or not preventative measures taken in the past had remained effective without erosion of efficacy. To prevent the occurrence of accidents, we undertook a number of initiatives such as conducting safety assessments before changing equipment and updating operating requirements and implementing risk assessment activities. As for the implementation status of these initiatives, we are conducting Responsible Care audits and making necessary improvements. We tirelessly carried out these initiatives, but failed to reduce the number of accidents in the MCC Group as a whole in fiscal 2015, thus the results were unsatisfactory. In the future, to achieve these goals, we will strengthen facility management, including taking appropriate responses by promoting risk assessment activities and identifying abnormal indications of facilities at an early stage.

**Number of facility-related accidents (MCC Group)**




* Minor accidents are excluded

## Plant topics

### Mizushima Plant receives the fiscal 2015 High-Pressure Gas Safety Minister of Economy, Trade and Industry Award


The Minister of Economy, Trade and Industry Award on Security of High-pressure Gas is presented to plants or facility safety managers that deliver superior results through measures to prevent accidents due to high pressure gas. The MCC Mizushima Plant was recognized as an outstanding plant with excellent safety measures in place for the structure, equipment and manufacturing methods of each high pressure gas manufacturing facility. Notably, the plant was commended highly for actively conducting safety management activities to prevent accidents based on the three main themes of safety, human resources development, and facility management, and for producing results in terms of reducing the risk of accidents.

Activities and Achievements

## Implementation of risk assessment in manufacturing

The MCC Group identifies potential risk factors in the manufacturing process (including manufacturing equipment, manufacturing methods, and operation methods) and takes steps to prevent their occurrence (manufacturing process risk assessment) through necessary countermeasures (risk reduction). Manufacturing process risk assessment is broadly divided into Safety Assessment (SA), which is implemented when beginning the manufacture of new products and when improving and upgrading existing manufacturing processes, and Safety Review (SR), which is the full inspection of existing manufacturing processes, safety reassessment, and confirmation of countermeasure effectiveness.

When beginning the manufacture of new products and when changing the chemical substances being used, the manufacturing equipment or the manufacturing order, SA is performed in advance, safety is evaluated, and necessary countermeasures are taken. The SA is performed at the planning stage and before the start of operation milestones and also after the start of operation. In the SA performed after starting operation, we evaluate whether safe operation has been achieved.

On the other hand, the SR evaluates safety by reconfirming the operating conditions such as the physical properties of substances being used, temperature, pressure and other factors, the control methods, and safety measures. Equipment operators familiar with everyday operation, staff, and those in charge of non-manufacturing divisions participate in the assessment and exchange views from a wide range of perspectives. Moreover, they assume not only a normal operating state, but various scenarios, such as variable states including startup and shutdown, as well as power failure, and then assess safety.

Activities and Achievements

# System for enhancing manufacturing process risk assessment

To enhance SA and SR, Mitsubishi Chemical Corporation (MCC) trains employees to enable them to understand risk assessment development and all manufacturing processes. The main topics are as follows.

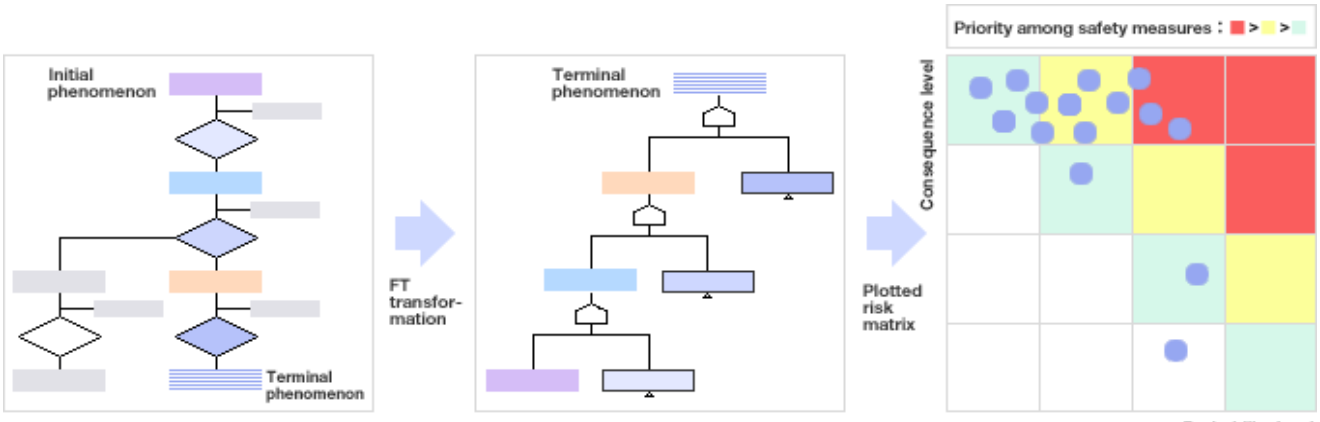
## Application of manufacturing process risk assessment methods

One of the risk evaluation methods used for manufacturing process used at MCC is HAZchart analysis, developed jointly by MCC and Mitsubishi Research Institute, Inc. This is a method used to evaluate the magnitude of manufacturing process risk based on quantitative data such as the probability of machinery failure and incorrect operation occurring and employed mainly by manufacturing process designers and those in charge of plant operations and workplace safety. It facilitates everything from accident scenario formulation to the evaluation of quantitative risk for manufacturing processes, allows worst-case scenarios to be easily simulated, enables shared factor events to be easily handled, and offers a host of other features. By using supporting software (PHA Organizer), anyone can easily evaluate manufacturing process risks. HAZchart analysis is used at MCC 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 SR at existing plants.

Today, we offer on-the-job training (OJT) using HAZchart analysis to develop engineers capable of performing quantitative risk assessment of manufacturing processes in all of our plants.

In addition, this software has been released by Ryoka Systems Inc. under the name "PHA Organizer Ver. 3." Looking forward, we intend to further popularize understanding of HAZchart analysis among companies throughout the entire MCC Group.

**Flow of HAZchart analysis**




Preparation of accident scenario using HAZchart

Transformation to FT[*1] to calculate the occurrence probability

Results are plotted on the risk matrix for evaluation, based on which safety measures are formulated

*1 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.

## Supporting SA and SR with SR instructors

In fiscal 2003, MCC launched an SR instructor system and took steps to improve manufacturing process risk assessment.

SR instructors are former employees with specialized experience and knowledge in manufacturing processes and safety countermeasures, as well as senior engineers. SR instructors attend the SAs and SRs of plants they are responsible for supporting the manufacturing process risk assessments of plants by providing advice and guidance from an expert's point of view.

## Implementation of process safety education

In fiscal 2009, all MCC plants started teaching process safety education. The objective of process safety education is to systematically educate mid-career technical staff, who are the core of manufacturing process risk assessment (SA and SR), in matters that form the basis of process safety. Subjects taught include the risk of substances and reactions, such as ignition and explosion, runaway reaction caused by thermal decomposition and exothermic reaction, as well as countermeasures for greater safety, and risk management. In fiscal 2015, about 430 MCC and Group company employees received the training and are putting the training to good use in daily operations.

The training will continue into the future with the aim of improving the capabilities of working-level employees.

# Plant topics

## Sakaide Plant

The Sakaide Plant has incorporated integrated risk management as an effective means of preventing the materialization of risks such as accidents and other problems, and has been continuously taking action to lower risks. The features of these activities are to maintain continuity in the identification of weaknesses in each workplace, and to enable anyone to easily perform risk assessment. The plant has defined risk items in aspects including safety, the environment, quality and management, for cases such as near-accidents, and defects or malfunctions found on patrols in daily activities. For all such items, it makes a visual indication and assessment of the degree of impact on the business, and risks are shared among all members. Continuous efforts are made to reduce unacceptable risks from hardware and software aspects.

In May 2016, the Responsible Care Department of MCC Sakaide Plant was presented with the Award for Effort, Japan Chemical Industry Association (JCIA) Responsible Care Award, for these activities to reduce risk.

The Sakaide Plant conducts these activities not just in the production departments, but also in the facility management and administration departments, as well as operations involving Group companies and partner companies. As a result, the activities have been expanded throughout the plant. Going forward, the entire Sakaide Plant will work as one to upgrade its activities to reduce risk, with a view to preventing the materialization of risk including accidents and other problems.

## Yokkaichi Plant

To prevent serious accidents, the Yokkaichi Plant has been training Chemical Process Safety Engineers (CPSEs) since 2009. CPSEs understand the fundamental theory and principles governing hazardous phenomena associated with chemical substances and processes.

In the past seven years through fiscal 2015, 35 individuals have completed the training. Currently, most of the CPSEs are responsible for undertaking preliminary safety studies and safety revaluations and providing related guidance on the manufacturing floor of the Yokkaichi Plant.

The focal point of the training is to develop an in-depth understanding of the causal principles, evaluation methods and prevention methods of phenomena that can cause significant damage once problems occur, such as thermal runaway, spontaneous combustion, and explosive combustion (gas, dust). As training themes, case examples are selected from among past cast studies from the Yokkaichi Plant, as well as highly instructive cases from among accidents and problems that have occurred both within and outside the Company. The training is held in small-group sessions including a safety engineering specialist who serves as the instructor, aiming to develop a quantitative and multi-faceted understanding of the case examples.

From fiscal 2016, the program was reestablished to provide training focused on strengthening the ability to apply knowledge and skills, as well as problem solving and critical thinking capabilities, including risk assessment. Actual issues from the manufacturing floor were chosen as training themes, and were solved as part of on-the-job training (OJT) to nurture frontline execution capabilities.

MCC will step up its efforts to ensure the safety of its plants by continuously nurturing people who are able to identify potential hazards not only at their own plant but also at other plants based on an understanding of the fundamental theory and principles governing hazardous phenomena, and encouraging these individuals to play an active role at all plants.

Activities and Achievements

# Disaster drill improvement

Mitsubishi Chemical Corporation (MCC) is working to improve disaster drills that are conducted at each plant. To make the drills more practical, we take a variety of creative approaches. For example, we conduct disaster drills in cooperation with fire departments, the police, city governments, and the special disaster prevention councils of industrial complex areas. As part of drills to prepare for gas leaks, we perform simulations of the diffusion of leaked gas and conduct evacuations based on the results. We also conduct drills assuming they will not be publicly announced in advance. Drills are also undertaken under the assumption that a disaster has struck at multiple locations.

## Plant topics

### Kashima Plant conducts toxic gas leak drills and joint drills with industrial complex area

Daily drills are necessary for conducting proper and prompt disaster mitigation activities if an accident occurs. In March 2016, the Kashima Plant conducted a drill assuming the scenario of a toxic gas leak caused by a major earthquake. This drill consisted of confirmation of the safety of employees and partner companies, evacuation drills using simulations of the diffusion of toxic gas, and actual reporting to the relevant government bodies, such as the fire department, police and local governments. Furthermore, a joint disaster mitigation organization was formed with 22 neighboring companies in the eastern Kashima Industrial Complex where the MCC Kashima Plant is located, as part of efforts to prevent the spread of damage by having the companies support each other's disaster mitigation activities. The joint disaster mitigation organization also conducts regular drills. In fiscal 2015, a disaster drill assuming a leak from a hazardous materials tank was implemented.

Gas diffusion simulation assuming a toxic gas leak


A drill assuming a leak from a hazardous materials tank is carried out by the joint fire and rescue brigade of the eastern Kashima Industrial Complex Area

### Accident-prevention drills focusing on logistics safety

Along with Mitsubishi Chemical Logistics Corporation, which handles the product logistics business, MCC also works to prevent accidents in logistics processes. As one initiative, 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 establishing organizations that can smoothly handle emergency situations.

Furthermore, Mitsubishi Chemical Logistics Corporation, a comprehensive logistics company, is enhancing RC training for its logistics business subcontractors. Together with its subcontractors, it is engaged in logistics accident prevention activities by educating them about the physical properties of the chemical products we offer, how to respond in time of leakage, horizontal deployment of case studies of accidents at other locations.

Drill scenario of leakage from a nitric acid tank truck
(response while wearing protective equipment)

Activities and Achievements

## Use of past accident information

The Mitsubishi Chemical Group (MCC Group) collects its own accident information and those of other companies which help prevent recurrence and the occurrence of similar cases.

We review the causes and countermeasures of cases of MCC's and other companies' accident, work accident and other collected accident information and inspect and review those cases with high commonality and similarity that are expected to occur.

Activities and Achievements

## Technical tradition

Mitsubishi Chemical Corporation (MCC) engages in the technical tradition of passing down the techniques and knowledge of senior employees to the next generation. This activity imparts knowledge to new employees through the opportunities afforded by day-to-day work and education and training. Techniques and knowledge sketched in the minds and in the notebooks of senior employees are written down in shared documents so they can benefit everyone.

These shared documents not only contain work procedures, but take into account the purpose and reason for the work (called "know-why"), such as work points. The form of the documentation varies depending on the characteristics of the workplace. The organization of these documents, with work points written down in work procedure manuals serving as short lessons, one to a page (called "one-point lesson sheets"), assembled as training material, and the way the documents are easy to use, saved as a sequence of files and in a database, are ingenious and make them helpful to new employees.

Experience-based educational programs are also offered to employees handling chemical substances. In these programs, the trainees go through simulated experiences of accidents, occupational injuries and other such events at chemicals plants. Notably, new employees receive safety education through classroom instruction and experience-based education before they are assigned to their workplaces.

### Plant topics

#### Kurosaki Plant implements experience-based safety education for new employees

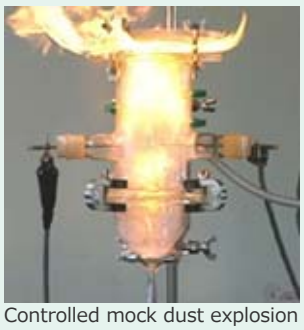
The MCC Kurosaki Plant provides an experience-based safety educational program to new employees. This course gives new employees the opportunity to learn about the injuries and accidents that could actually occur at a chemicals plant through mock experiences before they are assigned to their workplaces. Through this program, the new employees are thoroughly educated about the necessity of wearing designated protective gear on the manufacturing floor to prevent actions that could lead to injury, and internal rules such as keeping away from moving machinery, along with recognizing the painful consequences of not following these safety requirements and rules. The trainees also learn about safeguard measures that must be taken to prevent safety accidents such as fires and explosions through

Learning through a mock experience of getting caught or entangled in spinning machinery

controlled explosion experiments performed in front of them. By providing training that engages the five senses in this way, young employees with very little experience are able to make a point of working safely on the manufacturing floor.

This experience-based safety program is made widely available to MCC Group companies as well as the employee training programs of other companies and various other organizations. By doing so, MCC provides opportunities for many more people beyond its plant workers to renew their awareness of various hazards.


Learning through a mock experience of a dust explosion


Controlled mock dust explosion experiment

Activities and Achievements

## Sharing of information needed in operation and equipment management

At Mitsubishi Chemical Corporation (MCC), employees involved in the operation management division in charge of plant operation, the equipment management division in charge of equipment maintenance, and the department in charge of design that is responsible for equipment design, share design-based information, operation data, inspection records and other information which is used in newly built and improved equipment, day-to-day operation, and the equipment maintenance plan.

### Information sharing during equipment design

Of information about problems arising during day-to-day operation and equipment maintenance, items that are reflected in future design are organized in the database as maintenance prevention (MP) information (that improves equipment reliability). When building new manufacturing equipment and improving it, the division in charge of design designs the manufacturing capacity, operating conditions and the quality of materials jointly with the operation management division and the equipment management division. The operation management division and the equipment management and plant safety management divisions jointly conduct a safety assessment of the design results and take measures to reduce risk when necessary.

### Information sharing during the start of operation

When the equipment is completed and before operation starts, the operation management division prepares the standard operating procedure (SOP) manual. At this time, we strive to incorporate the basis of the design in the SOP in the know-why form. The operation management division, and the equipment management division and plant safety management division conduct a safety assessment before the start of operation and take measures to reduce risk where necessary.

## Sharing information after the start of operation

The equipment management division establishes the design maintenance policy and maintenance plan and carries out equipment maintenance including repair after the start of operation. The operation management division and the equipment management division share information such as inspection records, equipment maintenance results and operation status at the manufacturing maintenance communication meeting and the equipment management review. Particularly, at the equipment management review, the operation management division and the equipment management division plant safety management division all meet and review the equipment maintenance results. They conduct a review by reexamining operation management and equipment management methods where necessary.

In this way, people responsible for the operation management division, equipment management division, and plant safety management division share needed information with operation management and equipment management.

Upcoming Initiatives

## Strengthening earthquake countermeasures

Mitsubishi Chemical Corporation (MCC) plants produced a medium- to long term plan about earthquake countermeasures based on the experiences and lessons learned from the March 2011 Great East Japan earthquake and risk assessment findings. MCC carries out earthquake countermeasures according to the plan.

Based on related laws and regulations and the MCC basic policy below, MCC prioritizes conducting the prevention of damage in the plant and surrounding areas;

Basic Policy
1) Human life is the top priority,
2) Prevent the occurrence and expansion of operational safety and environmental accidents,
3) Operational recovery with the aim of supplying communities with essential products.

Specific responses are as follows:

1) Earthquake-resistant reinforcement work
   MCC created the order of priority for seismic reinforcement work based on envisaging the magnitude of earthquakes and the frequency of earthquakes occurring at each plant.
   MCC is carrying out seismic reinforcement work according to the priority for seismic reinforcement work.

2) Ground liquefaction countermeasures
   MCC established ground liquefaction evaluation methods.
   MCC carries out countermeasures for ground liquefaction of evacuation passages and emergency roads based on the evaluation results from the current fiscal year.

3) Tsunami countermeasures
   MCC carries out countermeasures premeditating tsunami.
   At each plant, evacuation routes and evacuation areas have been set and evacuations drills are performed regularly.

4) Creation of a BCP
   MCC created a business continuity plan drawing from the experiences of restoring operations at the Kashima Plant in the wake of the Great East Japan Earthquake.

Going forward, MCC will continue taking countermeasures according to Japan's policies with regard to earthquakes, tsunamis and ground liquefaction.

## Earthquake-resistant high pressure gas equipment

MCC evaluates the seismic performance of vital equipment*2 for earthquake-resistant design as established by the government of Japan, based on earthquake-resistant design at this point in time and will draw up improvement plans and pursue earthquake resistant countermeasures for equipment that requires countermeasures be taken.

*2 Vital equipment to earthquake resistant design as established by the government of Japan refers to (1) spherical storage units with a weld structure of steel pipe brace and (2) vital high-pressure gas facilities for earthquake resistant design.

Countermeasures against earthquakes are being implemented as follows, and the details of these measures are reported to the respective prefectures in which each plant is located.

(1) Spherical storage tank with a weld structure of steel pipe brace
Of the seven units requiring earthquake-resistant countermeasures, five have already been implemented. Countermeasures will be implemented on the remaining two units by fiscal 2018.

(2) Vital high-pressure gas facilities
Of the 26 units requiring earthquake-resistant countermeasures, 14 units have completed these countermeasures. The remaining 12 units are planned to have earthquake-resistant countermeasures implemented by fiscal 2020.

(3) High-pressure gas pipes
Trials have been completed for earthquake-resistance assessments of pipes for vital facilities from a seismic design perspective, with reference to the "Guide on Earthquake-Resistant Assessment Methods for Existing Pipe Systems" prepared by The High Pressure Gas Safety Institute of Japan. Plans for earthquake-resistance assessments are now being drawn up based on the results of the trials.

# Responsible Care Activities Occupational Safety and Health



## Occupational Safety

### Policy Initiatives to achieve zero work injury accidents

**MOS Indices** C-3: Earn recognition of corporate trust ＞Find out more

The Mitsubishi Chemical Group (MCC Group) established the policy that securing the environment and safety is the underlying principle of its business activities and it conducts work safety activities as one of the five Responsible Care (RC) mainstay activities based on Good Chemistry for Tomorrow, a principle upheld in its corporate philosophy.

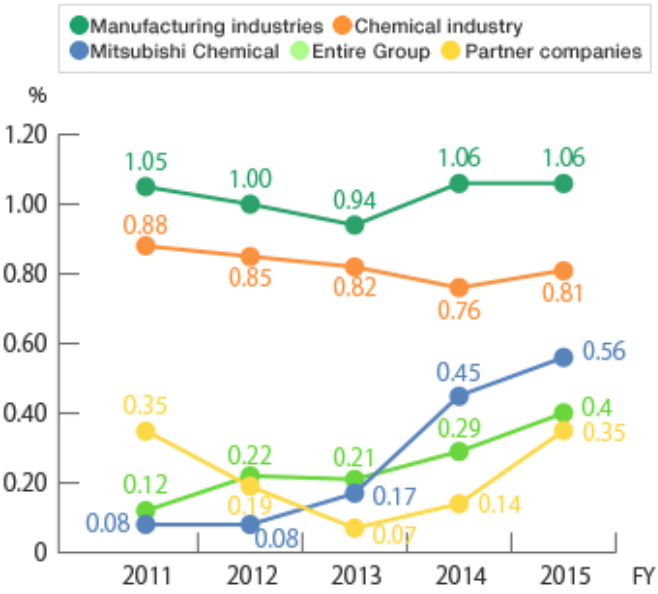
In fiscal 2015, the MCC Group promoted work safety activities with the goal of achieving zero serious work injuries and a maximum of 0.1 lost-time injury frequency*1. An analysis of the lost-time work injury accidents occurring in the past five years, 45% were so-called behavioral accidents such as being caught and entangled, falls and drops, and rolling over, and 38% were chemical and thermal injuries (toxicosis) distinctive to chemical plants. These two categories account for about 83% of all lost-time injury accidents. These results are thought to have been caused by factors including a lack of hazard prediction before working, unsafe behavior, as well as a lack of communication including miscommunication of instructions.

Therefore, in fiscal 2015 we made the making of countermeasures to prevent any reoccurrences and the raising of our awareness as professionals priority issues and conducted activities to thoroughly enable us to protect ourselves on our own. Specifically, in order to use past examples of work accidents effectively, we verified the causes of these accidents and put that information to practical use. We implemented activities to further raise safety awareness to prevent work accidents.

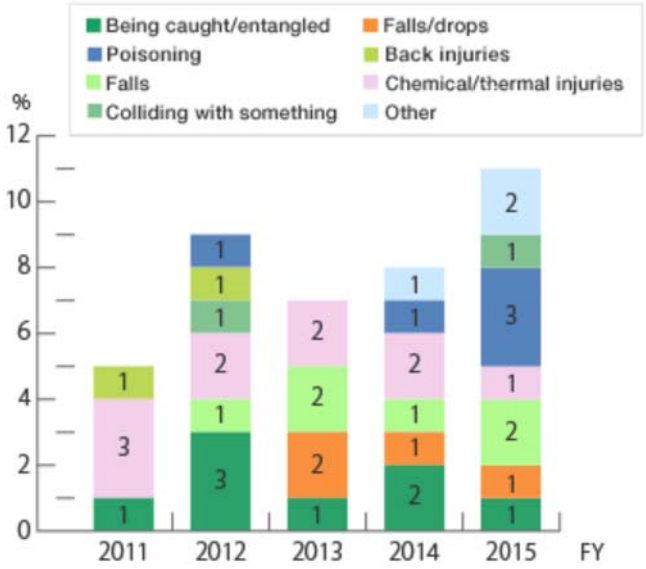
Although we conducted these various activities, the lost-time injury frequency*1 for the MCC Group in fiscal 2015 did not, unfortunately, reach our goal of 0.1 or less, but was instead 0.4, a disappointing result. In fiscal 2016, to enable workers to act professionally, we will make it a key issue to provide training on how to think, make correct judgments and behave to achieve self-protection and further strengthen our activities to rigorously prevent any reoccurrences after considering the weaknesses of each workplace, including by steadily implementing training to ensure hazard prediction is executed.

*1 Lost-time injury frequency: The number of casualties caused by lost-time injury accidents that took place per one million total working hours

- **Lost-time injury frequency**




- **Categories of lost-time injury accidents (MCC Group)**




## Policy Safety management for construction work

Mitsubishi Chemical Corporation (MCC) implements various initiatives to safely perform construction work jointly with the subcontractor that carry out the construction work.

A risk assessment that identifies potential risk factors is conducted at the construction planning stage. For construction work that has a high level of risk, a construction safety assessment (construction SA) review meeting is held and safety measures are studied. Attending the construction SA meeting from MCC are the operation management division with jurisdiction over the equipment for the targeted construction work, the construction management division that manages the construction, and the safety management division responsible for workplace security and safety.

In addition, MCC and the subcontractor company meet together about construction safety and confirm and ensure the items that have been agreed to at the construction SA, as well as other safety instruction matters, whether an

observer will be present during construction, and they also clarify the division of roles between the two companies.

The operation management division implements safety measures (depressurization, drainage, washing, electric power shutdown, safety locks such as valve shutoff) for construction equipment. It also explains the implementation status of safety measures, evacuation routes during emergencies, and other matters to the subcontractor. After all safety measures are completed and safety is confirmed, the operation management division gives the subcontractor permission to start construction.

In addition, during construction, the operation management division and the construction management division provide necessary observations or instructions.

## Plant topics

### Mizushima Plant

The Mizushima Plant received the Safety Award Grand Prize at the 40th JCIA Safety Awards. The award ceremony was held at the Palace Hotel Tokyo on Thursday, May 26, and Japan Chemical Industry Association (JCIA) Chairman Yoshimitsu Kobayashi (Chairman of Mitsubishi Chemical Holdings Corporation) gave out the award certificate.

Mizushima Plant General Manager Tsutomu Hao receives the award certificate from JCIA Chairman Yoshimitsu Kobayashi

**1) JCIA Safety Awards**

Japan Chemical Industry Association (JCIA) gives awards to business establishments in recognition of their excellent safety activities as a part of an initiative to encourage self-improvements in safety and occupational health. This year, 2016, marked the 40th year of the awards. JCIA received recommendations for 23 business establishments for the award, including 3 research centers. The judging was undertaken by the Safety Award Council under the leadership of its Director, Dr. Masamitsu Tamura, professor emeritus of the University of Tokyo. The judges narrowed down the list of candidates through both careful and fair examinations from various angles, including on-site inspections. One business establishment was selected for the Grand Prize, and four establishments for the First Prize.

At the Mizushima Plant, an organization has been created and managed so that a strong commitment to safety permeates the plant, from the General Manager to each and every employee. The plant encourages the development of human resources who think and act on their own, and ensures workplaces follow decisions and rules. This allows for extremely close-knit management of safety on the plant's own initiative, while making use of a wide variety of chemical substances in large quantities.

**2) Initiatives to date**

The Mizushima Plant has aggressively engaged in activities to improve safety since 1990, such as 5S and TPM, while continuing voluntary initiatives to refine and adhere to safety rules and systems through the acquisition of independent safety certification for high-pressure gas.

In recent years, the plant has focused efforts on nurturing human resources and organizations that

follow decisions and rules, as well as employees that take steps on their own to solve issues that arise, based on the simple concept of 3S (seiri, seiton, and seiso, which are neatness, orderliness, and cleanliness).

**3) Future initiatives**

Under the 3S concept, it is important to clarify the gap between reality and goals, and then advance the three steps of taking stock, visualizing and improving the situation. The Mizushima Plant has embedded these initiatives in its organizational culture by continuing to move through this improvement cycle.

Going forward, the Mizushima Plant will methodically advance safety as a first priority while promoting the close-knit integration of these concepts at production sites from a two-pronged approach of ongoing systematic safety management activities and taking action as safety professionals. With regard to ongoing systematic safety management activities, for example, the plant is engaging in activities to ensure proper work and facility management, enhance the identification of sources of hazards at the plant, and encourage the passing down of technical skills and knowledge. With regard to taking action as safety professionals, the plant is taking steps to ensure thorough adherence to fundamental actions, and improvement of sensitivity to risks (prevent close calls, improve hazard prediction).

# Occupational Health

Activities and Achievements

## Management of the working environment

The Mitsubishi Chemical Group (MCC Group) handles numerous chemical substances, including specified chemical substances and organic solvents while taking into account occupational health as regards work done late-night or under noisy conditions. To prevent damage to the health of regularly employed employees who handle these substances, we manage the work environment by continuously implementing monitoring of working environment*2 in accordance with legal ordinances and various guidelines. Our efforts to manage employee health also include conducting special medical examinations as well as workplace inspections performed by occupational health physicians and other occupational health experts, carrying out operations that are fully compliant with an in-house guidebook on legally stipulated chemical substance risk assessments and implementing various types of occupational health measures.

*2 Monitoring of working environment: Performed to gain an understanding of the extent of harmful factors existing in the work environment, and to what extent people working in the environment are exposed to them

Activities and Achievements

## Activities to foster emotional and physical health

The MCC Group, in collaboration with the Mitsubishi Chemical Corporation Health Insurance Society, is involved in mental and physical health activities.

## 1. Promotion of mental health

Because the ratio of mental disorders in lost worktime due to illness is high, we have set up a system where employees are free to consult with health experts at mental health workshops that we hold and through the introduction of counseling by an EAP*3 service. For stress checks, which are legally mandated from fiscal 2015, we have established a system capable of effective and appropriate operation and carry out the checks sequentially in line with an annual schedule.

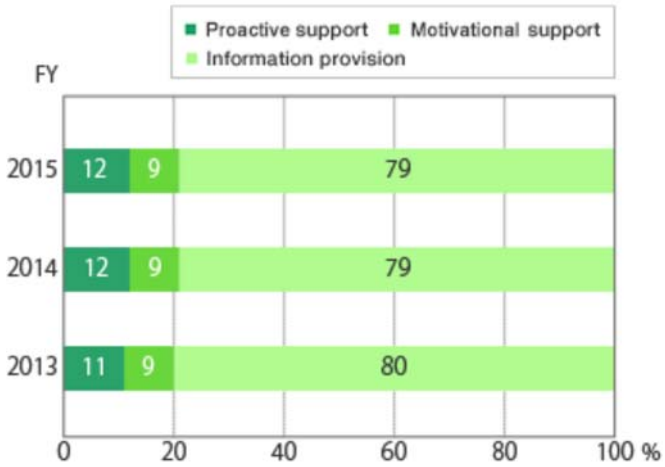
## 2. Promotion of physical health

We rigorously ensure 100% participation in standard health examinations and appropriate aftercare with a company doctor or public health nurse for employees who require support, and support employees in their independent efforts to manage their own health. Moreover, with cooperation from the Mitsubishi Chemical Corporation Health Insurance Society, we offer specific health guidance*4 to employees who require support and hold appropriate interviews.

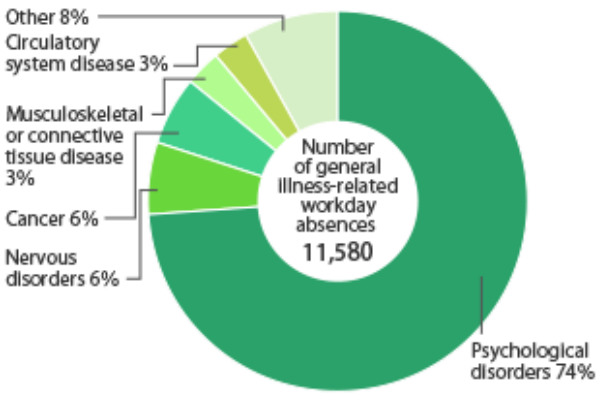
*3 EAP: Abbreviation for Employee Assistance Program, an initiative wherein certified counselors of outside professional institutions provide mental health counseling and other related services.

*4 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.

**Percentage of specific health guidance (MCC)**




**Number of illness-related workday absences (MCC in 2015)**




* Statistical standards changed from fiscal 2015

# Responsible Care Activities Environmental Protection



## Environmental Management

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

**MOS Indices** S-1: Contribute to reducing environmental impact through products and services
C-3: Earn recognition of corporate trust ＞Find out more

With the objectives of contributing to the global environment, the Mitsubishi Chemical Corporation Group (MCC Group) is proactively working on reducing greenhouse gas emissions, pursuing resource and energy conservation, preventing contamination of the air, water, soil, and other natural features, limiting waste generation and encouraging reuse and recycling, engaging in activities to conserve the natural environment and ecosystem and developing technologies contributing to these purposes, and engaging in the development and production of environmentally friendly products, as well as striving to reduce the environmental load in all processes in our business activities. In addition, we regularly provide environmental laws and regulations education, conduct environmental audits and hold meetings to exchange environmental information. We recorded zero environmental accidents in fiscal 2015.

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# Preventing Global Warming

Activities and Achievements

## Energy conservation initiatives at different locations

**MOS Indices** S-1: Contribute to reducing environmental impact through products and services
S-2: Improve stakeholder satisfaction ＞Find out more

The Mitsubishi Chemical Group (MCC Group) proceeded with activities aimed at promoting energy conservation and reducing greenhouse gases based on the target that Mitsubishi Chemical Holdings Corporation (MCHC) had set of "reducing greenhouse gas emissions more than 17% compared with fiscal 2005 levels by fiscal 2015." In fiscal 2015, the MCC Group reduced greenhouse gas emissions by 26% compared to fiscal 2005, making a significant contribution toward MCHC achieving its target. On the energy conservation front, MCC is also involved in ongoing efforts to achieve 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, we systematically identified and assessed facilities and formulated plans for which further energy-saving is possible at all MCC facilities, beginning with five plants with significant energy consumption rates, including Kashima, Mizushima, Yokkaichi, Kurosaki and Sakaide. MCC is working together with the participation of specialist engineers for the project with a high degree of technical difficulty but with major energy conservation outcomes.

In fiscal 2015, we upgraded power equipment with higher energy efficiency where previously there had been large energy consumption to improve efficiency. As a result of the combined energy conservation measures, we significantly reduced steam energy consumption equivalent to around 21,000 tons of $CO_2$.

Activities and Achievements

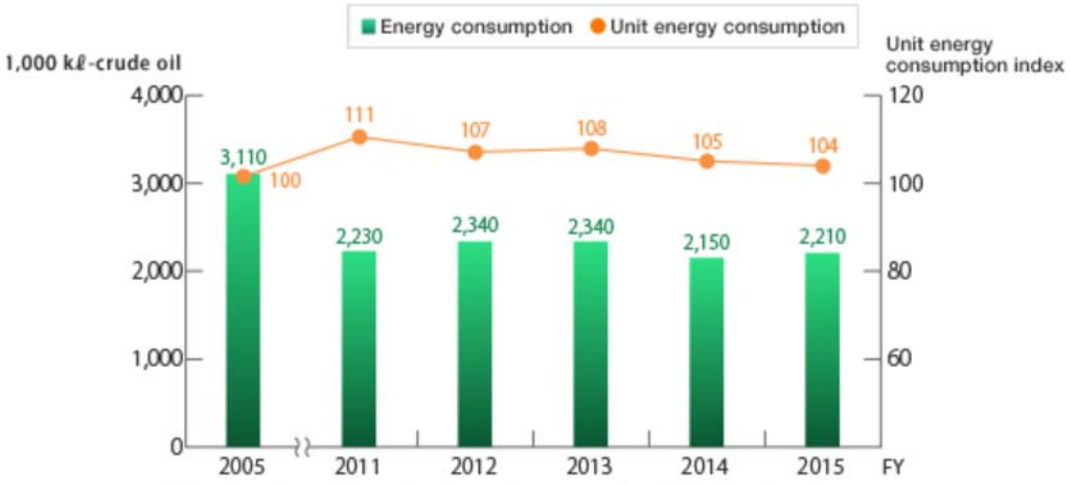
## Reduction in energy consumption and greenhouse gas emissions in fiscal 2015

**MOS Indices** S-1: Contribute to reducing environmental impact through products and services
S-2: Take actions against the depletion of natural resources and implement energy-saving initiatives ＞Find out more

In fiscal 2015, operation rates rose at multiple plants, which led to slightly increased energy consumption and greenhouse gas emissions compared with previous fiscal year levels, but enhanced operation rates and implementation of energy-saving measures led to a unit energy consumption decrease of 1% compared with the previous fiscal year (the unit energy consumption index was 100 in fiscal 2005). Further, Groupwide greenhouse gas emissions marked about a 26% drop compared with fiscal 2005.

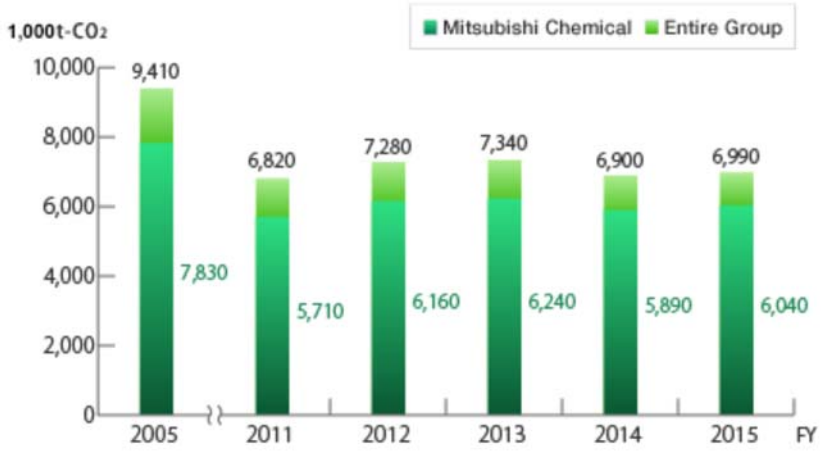
Under the MCHC medium-term management plan from 2016 (with a target year of fiscal 2020), promoting reduction of greenhouse gas emissions and energy saving are set as priority activities. The Mitsubishi Chemical Corporation Group will conduct activities even more rigorously.

## Energy consumption (MCC)




*The data above is based on the periodic report from MCC. The data of Group companies is not included.

## 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 Indices** S-1: Contribute to reducing environmental impact through products and services
S-2: Take actions against the depletion of natural resources and implement energy-saving initiatives ＞Find out more

Mitsubishi Chemical Corporation (MCC) 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, MCC has sought efficient energy usage together with logistics contractor Mitsubishi Chemical Logistics Corporation. Attempts are also being made to reduce $CO_2$ emissions.

MCC promoted conservation of energy in logistics by switching from truck to rail container transport, reviewing exporting and importing ports of coastal shipping vessels to shorten distance from plants, and by increasing loading rates on ships engaged in domestic sea transport and vehicles used for land transport. In particular, as a result of a proactive modal shift to using trains, MCC received authorization from the Ministry of Land, Infrastructure, Transport and Tourism to use the Eco Rail Mark*2 logo, thereby rating us as a company promoting an environmentally friendly method of distribution.

Eco Rail Mark

In fiscal 2015, as a result of enhancing the vehicle transport shipping lot volumes, continuing to promote switching to rail container transport and increasing the rate of sea transport, unit energy consumption improved by 1.7% year on year for an average decrease rate of 0.9% over the last five years. In fiscal 2016, MCC will become even more proactive in promoting the initiatives it has pursued to date and endeavor to reduce fuel consumption and $CO_2$ emissions.

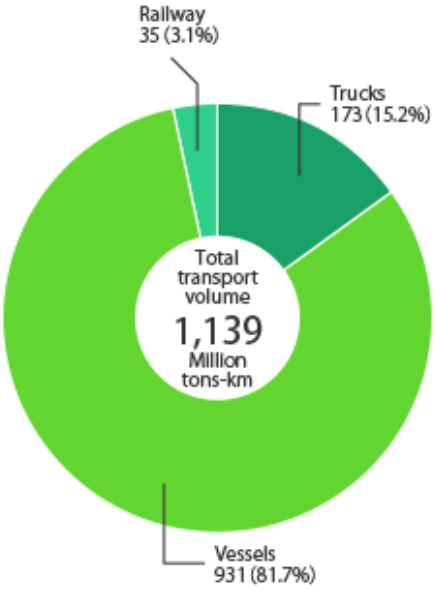
*1 Specified consigner: Business entity that transports 30 million tons-km of cargo in its possession each year.

*2 Eco Rail Mark: A logo authorized for use by companies that use freight railway for more than 15% of freight transportation or that have an annual use of railways for shipment of 15,000 tons or more or 1.5 million ton-kilometers, calculated as volume multiplied by distance.

**Actual reduction in unit energy consumption in transportation (MCC)**

| FY | | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| Energy consumption | GJ | 716,823 | 725,407 | 756,777 | 780,237 | 770,630 |
| Fuel consumption (converted to crude oil) | Kℓ | 18,494 | 18,716 | 19,525 | 20,130 | 19,880 |
| Transport volume | Million tons-km | 1,023 | 1,076 | 1,132 | 1,134 | 1,139 |
| $CO_2$ emissions | t-$CO_2$ | 49,500 | 1%increase → 50,100 | 4%increase → 52,300 | 3%increase → 53,900 | 1%reduction → 53,300 |
| Unit energy consumption | Kℓ/million tons-km | 18.1 | 3.9%reduction → 17.4 | 0.8%reduction → 17.3 | 2.9%increase → 17.7 | 1.7%reduction → 17.5 |

● **Breakdown of transportation volumes by transport mode in fiscal 2015 (MCC)**

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# Preventing Air, Water Quality and Soil Pollution

Activities and Achievements

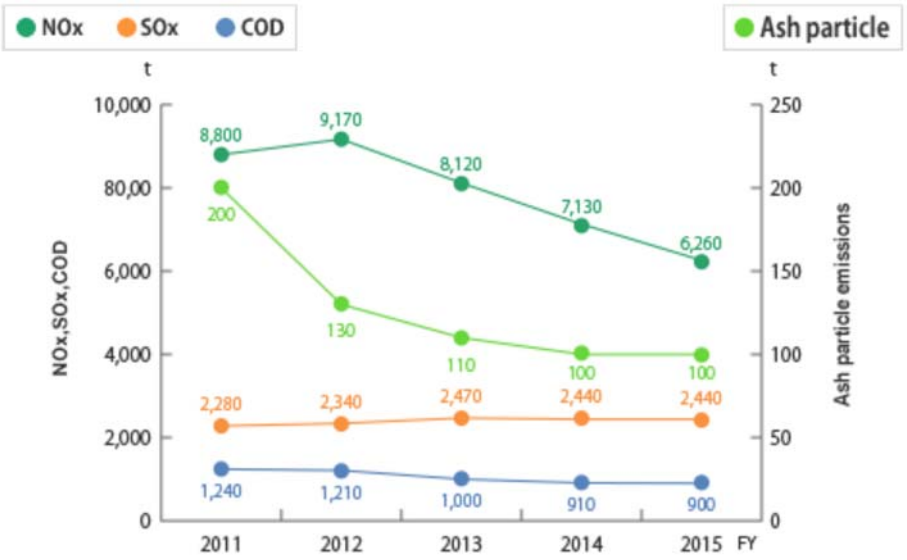
## Initiatives for reducing environmental impact on air and water quality

**MOS Indices** S-1: Contribute to reducing environmental impact through products and services ＞Find out more

The Mitsubishi Chemical Corporation Group (MCC Group) handles a wide range of chemical substances, and consumes large quantities of fossil fuels that are sources of nitrogen oxide ($NO_X$) and sulfur oxide ($SO_X$). We have therefore taken action to reduce emissions of hazardous air pollutants and reduce emissions of organic substances into public bodies of water. By installing and improving emission gas and drainage treatment facilities, we have substantially slashed the environmental load on the atmosphere and public water bodies.

Emissions of $NO_X$ in fiscal 2015 decreased by 870 tons compared to the previous fiscal year because the operation of the power generating facilities restarted in the previous fiscal year to overcome the power shortage attributed to the Great East Japan Earthquake was stopped.

● **Reducing environmental impact on air and public bodies of water**




Activities and Achievements

## Initiatives for reducing overall PRTR*3 and VOC*4 discharges

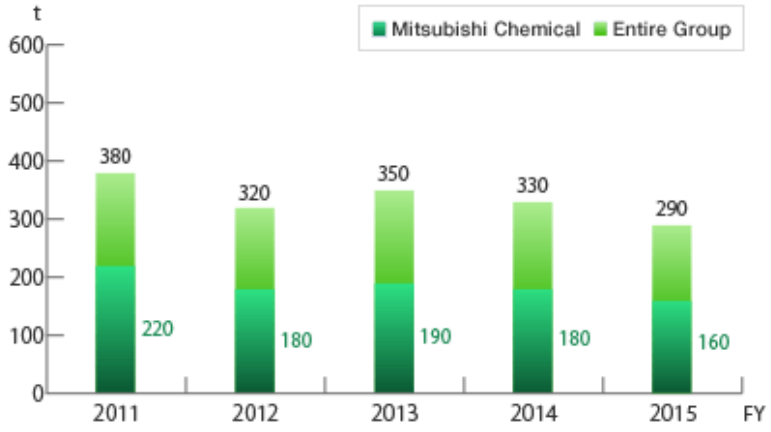
**MOS Indices** S-1: Contribute to reducing environmental impact through products and services ＞Find out more

The MCC Group has been working to reduce the discharge volume of chemical substances such as PRTR-regulated substances and VOCs. Regarding VOC emissions in particular, we maintained the goal of a reduction of at least 50% compared to fiscal 2000.
The PRTR*3-regulated substances discharge volume in fiscal 2015 was 290 tons, a decrease of 40 tons compared with the previous fiscal year.
VOC*4 emissions decreased significantly due to large-scale periodic repairs and a halt in the plant, declining by 380 tons compared with the previous fiscal year, maintaining a reduction of at least 50% compared to fiscal 2000.

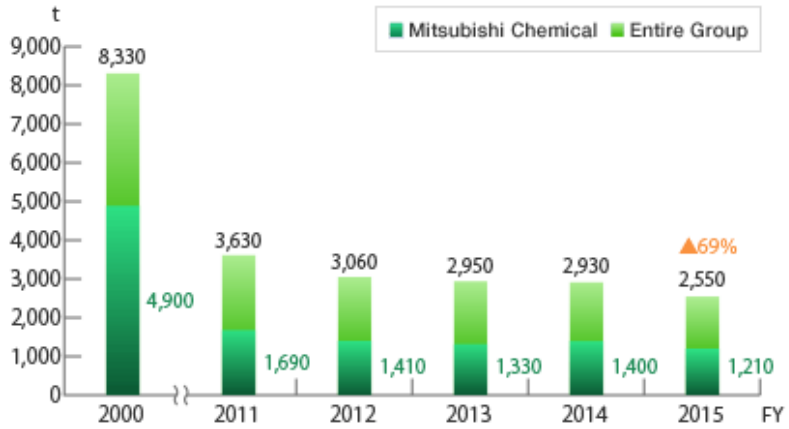
*3 Pollution Release and Transfer Register (PRTR): A notification system for the released and transferred amount of chemical substances. This is a system for clarifying, aggregating, and publicizing the data on the quantity of hazardous chemical substances released into the environment from each source,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

*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).

● **PRTR-regulated substances discharge volume**



● **VOC discharge**




## Purifying and monitoring soil and groundwater

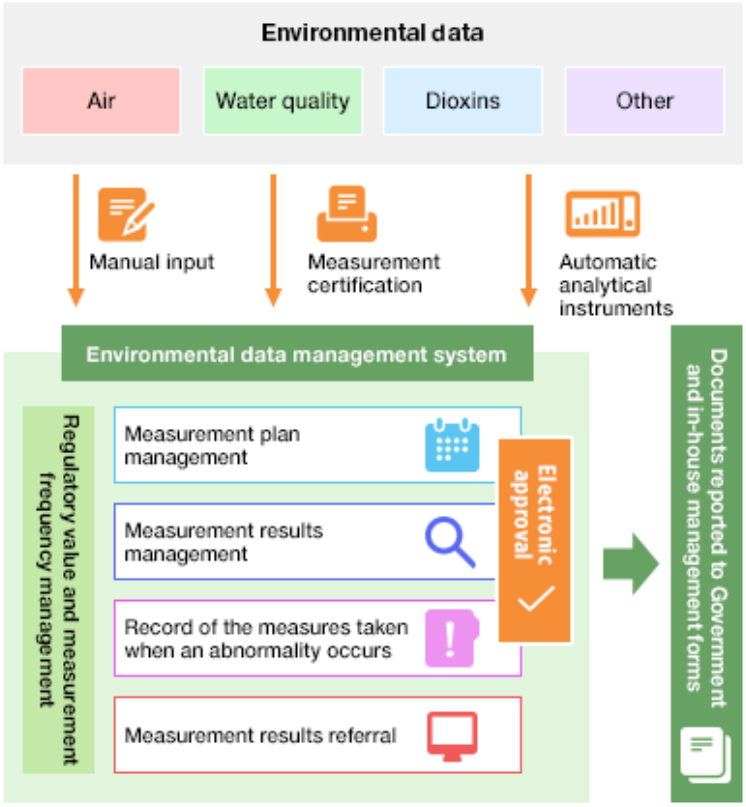
All MCC production bases conduct voluntary surveys on soil and groundwater pollution. Production facilities where the surveys have revealed pollution provide notification pursuant to local ordinances or voluntarily, and continue purification and monitoring measures as instructed by the prefectural or 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.

## Operation of the environmental data management system

MCC is operating an environmental data management system to strengthen its management of environmental data, including measurement records, based on laws, such as the Air Pollution Control Act and the Water Pollution Control Act, ordinances and agreements and unify internal operational management.

The system is strengthening data management mainly through functions like those in (1) - (5) below.

(1) Integrated management of the facilities subject to measurement, the measurement locations, and the measurement plans to prevent measurement omissions
(2) Prevention of input mistakes and falsification by importing measured values from automatic analytical instruments and electronic reading of measurement certification issued on paper
(3) Strengthening of check functions through recording the modification history of the measured values and the electronic approval of managers
(4) Prevention of flaws in reports through automatic creation of documents reported to governments and in-house forms
(5) Keeping and storing records of the measures taken when an abnormality, such as exceeding the management value, occurs

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# Waste Reduction and Recycling

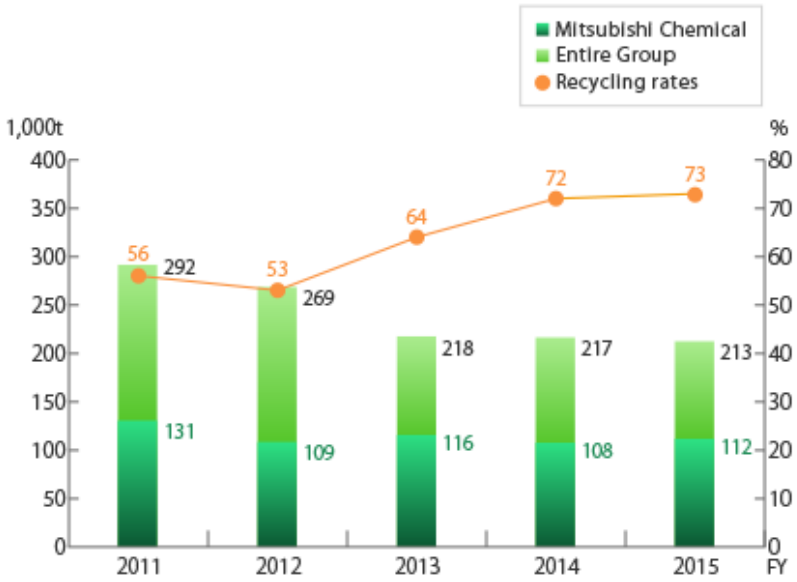
Activities and Achievements

## Initiatives for attaining zero emissions

To contribute to the global environment, the Mitsubishi Chemical Group (MCC Group) has stepped up recycling of industrial waste and has set a target of achieving zero emissions*5. Recycling rates have improved, particularly regarding construction waste, through such measures as rigid enforcement of sorted collection.
In fiscal 2015, in addition to an increased rate of sludge recycling, there was a decrease in construction waste generated and waste ultimately disposed of as landfill decreased significantly. As a result, the ratio of industrial waste year on year was 1.4%, failing to attain our target of zero emissions, but significantly lower than the previous fiscal year.
We will continue to aim for zero emissions through sorted collection -something we will undertake thoroughly-and by continuing to make efforts to recycle.

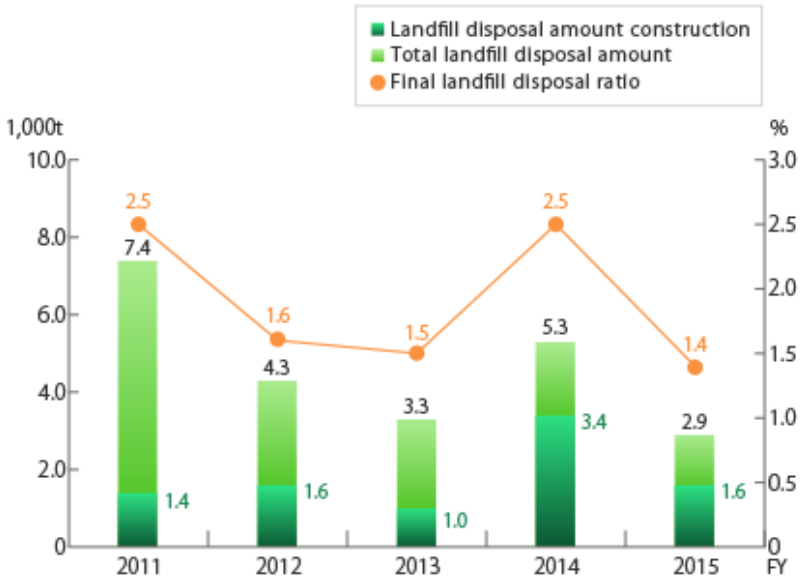
*5 Zero emissions: The MCC Group defines zero emissions as keeping the volume of industrial waste ultimately disposed of as landfill to a maximum of 1% of the total industrial waste generated (an ultimate landfill disposal ratio of 1% or less).

## Industrial waste emissions and the recycling ratio




*6 In fiscal 2013 and fiscal 2014, the treatment volume related to the industrial waste treatment business is outside the scope of aggregation

## Volume of industrial waste ultimately disposed of as landfill and ratio of industrial waste ultimately disposed of as landfill (MCC Group)




*7 In fiscal 2013, fiscal 2014 and fiscal 2015, the treatment volume related to the industrial waste treatment business is outside the scope of aggregation

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# Biodiversity Preservation

Activities and Achievements

## Initiatives to contribute to the global environment

**MOS Indices** S-1: Contribute to reducing environmental impact through products and services ＞Find out more

The Mitsubishi Chemical Group (MCC Group) is aware that its business activities are only possible due to the benefits we receive from biodiversity (ecosystem services*8) while the business activities also have an impact on the natural environment and the ecosystem, and we believe that implementing initiatives to contribute to the global environment will lead to the conservation of biodiversity. The MCC Group has always engaged in Responsible Care (RC) activities and as a part of its environmental conservation activities it has made contributions to the global environment, including reducing environmental impact (reducing $CO_2$ emissions, resources saving and energy saving, zero emissions of waste, promoting 3R activities (reduce, reuse, recycle), reduction of VOC discharges and reduction of hazardous air pollutant emissions, communication with the local community (business location tours, opening grounds, gyms and welfare facilities to the public, environmental training for outside the company), cleaning up neighboring and coastal areas, conservation of green areas (green area management, planting, and greening promotion), and preservation of the natural environment. In addition, since fiscal 2010, the MCC Group has also upheld the Nippon Keidanren Declaration on Biodiversity*9 as a member of the Mitsubishi Chemical Holdings Group (MCHC Group). In addition to this, from fiscal 2014 we are striving to reduce the impact on biodiversity from our business activities in an ongoing and self-initiated manner based on the MCHC Biodiversity Preservation Policy. Looking ahead, we intend to continue contributing to global environment initiatives from the standpoint of biodiversity conservation.

*8 Ecosystem services
- Provisioning services: Materials and products that can be obtained from ecosystems (food, fresh water, wood, fibers, etc.)
- Regulating services: Benefits that can be obtained from the fact that ecosystems control the processes of nature (climate regulation, disease prevention, water and land conservation, etc.)
- Cultural services: Nonmaterial benefits that can be obtained from ecosystems (scenery, aesthetic experiences, etc.)

*9 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.

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# Environmental Accounting

Activities and Achievements

## Investments and expenses for the environment

Mitsubishi Chemical Corporation (MCC) tallies its investment and expenses for environmental conservation on the basis of guidelines set by Japan's Ministry of the Environment.

In fiscal 2015, we strengthened wastewater management and air pollution prevention so the total amount of investment came to ¥1.1 billion.

Meanwhile, expenses in this regard amounted to ¥20.0 billion for outlays such as those involving operation and maintenance of pollution prevention equipment and for proper disposal of waste materials.

● **Investments and expenses for the environment (MCC)**

million yen

| Environmental conservation costs | | | 2014 | | 2015 | |
|---|---|---|---|---|---|---|
| **Category** | | **Main initiatives** | **Investment amount** | **Expenses** | **Investment amount** | **Expenses** |
| Environmental conservation costs for suppressing environmental load generated in business areas due to production and service activities | 1. Pollution prevention costs | Prevention of Air pollution<br>Dust collection system augmentation and particulate matter reduction<br>Prevention of water pollution<br>Wastewater management improvement, etc. | 4,012 | 15,067 | 933 | 13,527 |
| | 2. Global environmental conservation costs | $CO_2$ emissions reduction, operational improvement, etc. | 23 | 699 | 0 | 650 |
| | 3. Resource - recycling costs | Industrial waste reduction, proper waste disposal, resource conservation, energy conservation, etc. | 527 | 4,151 | 132 | 4,005 |
| Environmental conservation costs in management activities | | Operation of unit addressing environmental conservation<br>ISO 14001 compliance and renewal<br>national exams, environmental education, etc. | 0 | 810 | 0 | 798 |
| Environmental conservation costs in R&D activities | | R&D for increased productivity, etc. | 0 | 1,635 | 0 | 253 |
| Environmental conservation costs in social contribution activities | | Installation and upkeep of factory green spaces | 8 | 355 | 10 | 304 |
| Costs for dealing with environmental damage | | Cleanup of contaminated soil, etc. | 0 | 12 | 0 | 12 |
| Other environmental conservation costs | | $SO_x$ surcharges | 0 | 462 | 0 | 428 |
| **Total** | | | **4,570** | **23,192** | **1,075** | **19,977** |

# Responsible Care Activities Quality Assurance

## Policy For further enhancement of customer satisfaction

**MOS Indices** C-3: Earn recognition of corporate trust > Find out more

In order to ensure "the environment, safety, and health" the Mitsubishi Chemical Corporation Group (MCC Group) has positioned quality assurance as one of the important pillars of its RC activities. We believe that implementing thorough product control is important in order to ensure the safety of the products and continuously improve their quality, so that our customers can use the products safely and with peace of mind.
As a comprehensive chemical manufacturer supplying a wide array of products to customers in a broad range of industries, and under our following basic policy, MCC believes that it is its duty to strive to prevent quality and product liability (PL) issues, while at the same time we will work to further increase customer satisfaction by offering safe and secure products.

- In order to realize *KAITEKI* for customers, we provide products and services that customers can use with reliability.
- We listen carefully to our customers' requests, and rapidly and sincerely fulfill them.
- In accordance with the basis of our responsible care activities, we strive to achieve a continuous improvement in quality.

Meanwhile, on a global scale, public voices are increasingly demanding that corporations manage chemical substances contained in each of their products throughout the products' entire life cycle, and that they release information on such matters with appropriate transparency. To accurately respond to these rising demands, since fiscal 2011 MCC has been operating the "Green Information Management System," utilizing the infrastructure of the Joint Article Management Promotion-consortium (JAMP)*1 to provide accurate information on the management of specified chemical substances (management of which is required by law) for each of our products containing such chemicals. However, in fiscal 2013 the Ministry of Economy, Trade and Industry took the lead in examining the new scheme, chemSHERPA*2, to provide information about chemical substances in products, and it began full-scale operation in fiscal 2016. MCC also aims to build a better system, and through JAMP*1 will proactively and candidly provide its opinions and cooperation. Together with raw materials suppliers and our own corporate customers, we hope to contribute to the creation of a social system capable of managing chemicals throughout the entire supply chain.

*1 JAMP is an organization that works to promote appropriate management, disclosure, and communication across all industries relating to chemical substances contained in "articles" (parts and final products) throughout the supply chain.

*2 chemSHERPA: A new information communication scheme to advance examinations centered on those conducted by the Ministry of Economy, Trade and Industry of Japan, to standardize competing information communication schemes about the chemicals included in products.

## Activities and Results Proactive cooperation with chemSHERPA

From fiscal 2013, MCC has been applying the "Green Information Management System," utilizing the infrastructure of JAMP, to administer and provide information about the chemical substances for each of our products containing such chemicals. However, in fiscal 2013 the Ministry of Economy, Trade and Industry took the lead in commencing studies

of the new scheme to provide information about chemical substances in products. MCC also aims to build a better system, and through JAMP will proactively and candidly provide its opinions and cooperation. From fiscal 2016, JAMP took over the operation of chemSHERPA and commenced full-scale operations. MCC will also continue to utilize JAMP in order to proactively contribute to the inspection, launch and smooth operation of chemSHERPA.

Responsible Care Activities

# Chemicals Management

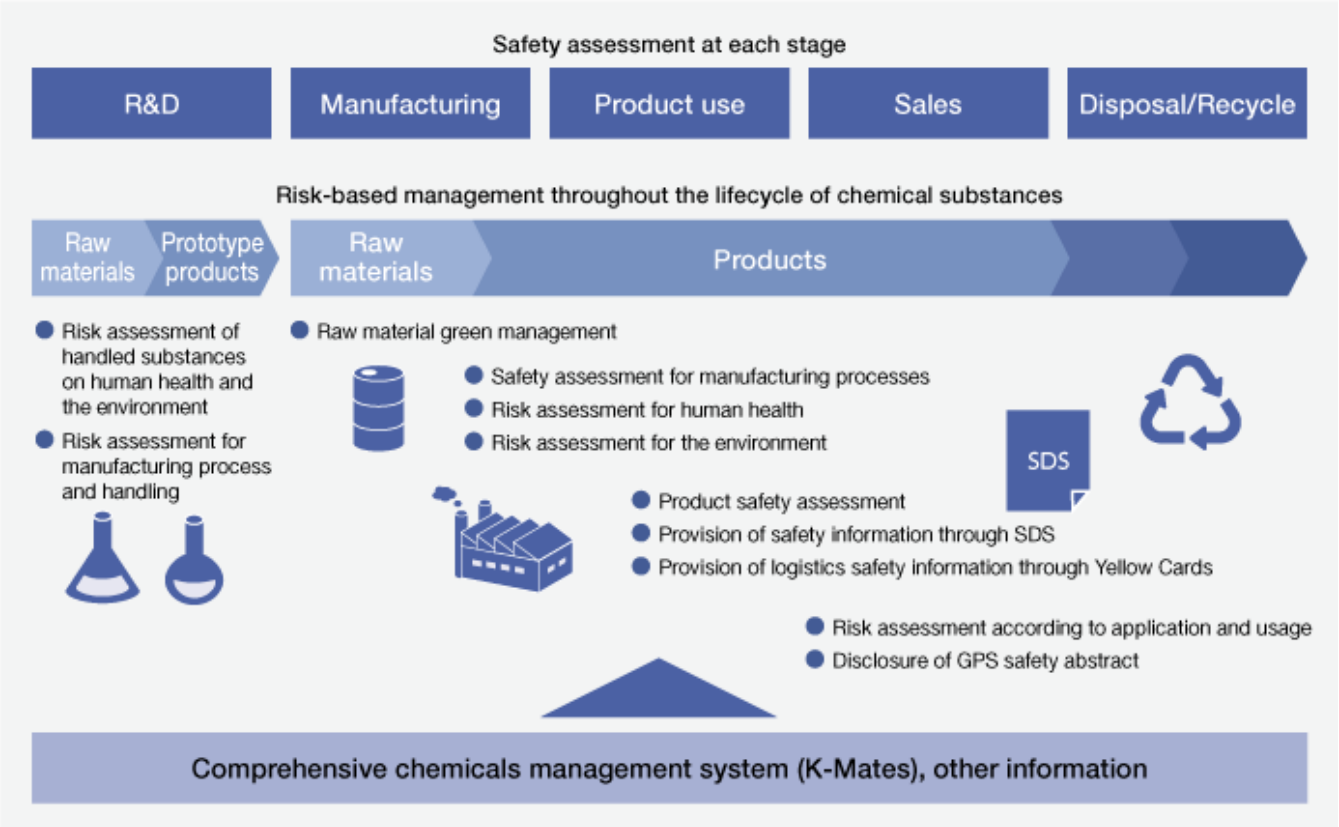
## Policy Our basic stance on chemicals management

Based on the concept of product stewardship, the Mitsubishi Chemical Group (MCC Group) strives to rigorously manage chemical substances emphasizing risk-based chemicals management throughout the supply chain and actively disclose and provide risk management information on chemical products.

This is an effort in line with the Strategic Approach to International Chemicals Management (SAICM) and an activity aimed at addressing process safety and disaster prevention, occupational health and safety, product safety, and environmental protection through risk-based chemicals management throughout the product lifecycle, and realizing a *KAITEKI* society.

Specifically, the MCC Group comprehensively collects and manages 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, and based on this information, the MCC Group conducts risk assessment regarding the impact of chemical substances on people and the environment as well as the safety of manufacturing processes. Through these activities, the MCC Group continues to strengthen its voluntary management for a sustainable society.

- **Risk-based chemicals management from product development to manufacturing, product use, disposal and recycling**



Activities and Achievements

# Establishing a comprehensive chemicals management system

To achieve the 2020 targets under WSSD*1, the MCC Group has adopted three central themes of risk-based chemicals management, rigorous compliance, and efficient process innovation. Based on these themes, MCC has integrated and operates the various databases and management system functions that were previously administered by individual divisions into a new system (K-Mates*2) that can centrally maintain and manage all the necessary information for chemicals management.

K-Mates has a function for automatically determining the GHS*3 classification of chemicals and a function for automatically determining applicable laws and regulations in a system that outputs SDS*4 and labels to make it compatible with various laws, regulations, and standards in Japan, Europe and the U.S., East Asia, and ASEAN countries. Currently, we are bolstering K-Mates' functions to enable warning output and comprehensive management.

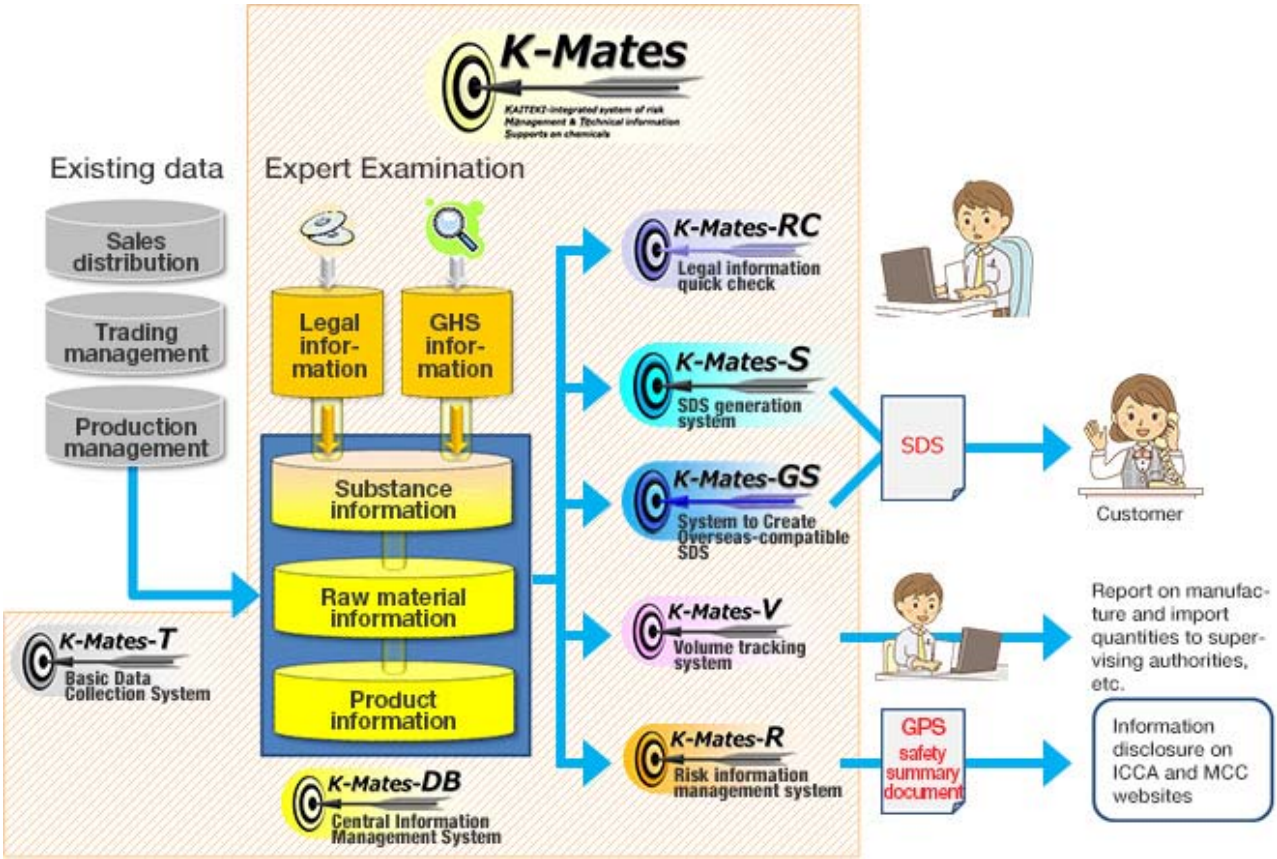
*1 WSSD: World Summit on Sustainable Development An international summit on environmental issues held in Johannesburg in 2002.

*2 K-Mates: KAITEKI-integrated system of risk management & technical information supports on chemicals.

*3 GHS: Globally Harmonized System of Classification and Labeling of Chemicals
A system for classifying chemicals by type and degree of hazardous properties based on globally harmonized rules, and communicating this information by labeling and provision of SDSs.

*4 SDS: Safety Data Sheet
A document for providing information on the properties, hazards and toxicity, safety measures, and emergency responses concerning chemical substances when transferring or providing chemicals to other business entities.

**Overview of K-Mates**



Activities and Achievements

# Voluntary efforts toward chemicals management in industry

## Participating in ICCA*5 activities and Japan Chemical Industry Association activities

MCC is continuing to actively pursue Global Product Strategy (GPS*6) activities that provide information on safety and risk management of chemical products promoted by ICCA.

**1. Promotion of GPS activities in Japan**

To promote ICCA's GPS activities, MCC actively participates as a member in the promotion and strengthening of JIPS*7. As part of the strengthening of JIPS promotion, during fiscal 2015, as in 2014, we continued our efforts to make GPS Safety Summaries (GSS) and disclose them. MCC had published 24 chemical safety summaries (a total of 40 with both Japanese and English versions) among those by fiscal 2015.

GPS Safety Summaries (GSS)

As part of GPS activities, the Japan Chemical Industry Association (JCIA) jointly started up the SCRUM*8 Project in 2011 with the Joint Article Management Promotion-consortium (JAMP) in order to suggest a system for sharing information on risk assessment for chemicals in the supply chain. Within this activity, MCC headed up the planning strategy working group and studied the risk assessment status concerning companies in the supply chain. MCC has also created draft guidelines regarding the sharing of risk assessment-related information.

**2. Cooperation in international GPS promotion activities**

In fiscal 2015, MCC helped to spread GPS activities in Asian countries by attending GPS/PS*10 workshops that JCIA held in collaboration with ICCA's RCLG*9.

*5 ICCA: International Council of Chemical Associations

*6 GPS: Global Product Strategy
A voluntary initiative wherein each company conducts risk assessments of its own chemical products, performs proper management and also summarizes and discloses information on the safety and risks of those chemicals in Safety Summary.

*7 JIPS: Japan Initiative of Product Stewardship voluntary initiative promoted by JCIA to strengthen risk-based chemical product management in companies.

*8 SCRUM: Project of Supply chain Chemical Risk management and Useful Mechanism discussion

*9 RCLG: Responsible Care Leadership Group
ICCA's RC promotion organization

*10 PS: Product Stewardship
Responsibility for product management

Activities and Achievements

# Compliance with chemicals regulations

## Compliance with laws and regulations concerning chemicals in Japan

Laws and regulations concerning the manufacture, import, use, and sales of chemical products are wide ranging and MCC is making steady efforts with regard to various notifications and permissions and authorizations contained in the

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., the Industrial Safety and Health Act, the Poisonous and Deleterious Substances Control Law, and other laws by centralizing management under a system, establishing internal rules, and other means.

Related divisions are swiftly responding to the various types of substances that have been added as restricted substances and we are providing such information to customers.

With respect to our past record of manufacturing and import volume for all chemical substances and the reporting on volume by application, which is mandatory under the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., MCC positively addresses this law every year and utilizes the compiled data in risk-based chemicals management within the Company.

Regarding the provision of chemical hazard and toxicity information and cautionary handling information based on Globally Harmonized System (GHS), which is partially mandatory under the Industrial Safety and Health Act and the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof, MCC follows JIS Z 7253:2012, established based on the fourth revision of GHS, performs GHS classifications for all of its products, displays easy-to-understand labels, provides Safety Data Sheets (SDS), and also posts instructions within the workplace.

## Efforts to address overseas laws and regulations

MCC is working to build up a database that will allow us to effectively manage applications for registration of new chemical substances in each country, and have centralized the management of information within the company in the same manner as our response to laws and regulations in Japan. For new chemical substances in functional chemical products, which are growing in terms of export volume from Japan, we rigorously manage information regarding registration procedures and for each country and compliance.

Due to the trend of new overseas chemical regulations (especially in China, South Korea and Taiwan, Thailand and TSCA in the U.S., where new regulations will be specified from 2016), we are collaborating more closely with affiliate companies of Mitsubishi Chemical Holdings Corporation (MCHC), and steadily obtaining information and dealing with registration application and other issues.

With regard to the EU REACH*11 regulations, MCC will complete the registration of substances exported in quantities under 100 tons, which it has to register by May 31, 2018. We plan to respond to the guidance of the substances evaluation made by the European Chemicals Agency (ECHA) and authorities in EU member states, gather information on regulation trends on items such as Substances of Very High Concern (SVHC), Substances of Authorization and Substances of Restriction, and continue to steadily take necessary action.

*11 REACH: Registration, Evaluation, Authorization and Restriction of Chemicals
Regulations regarding the registration, evaluation and restriction of chemical substances.

## In-house training

MCHC regularly holds the MCHC Chemical Product Management Seminar. The seminar is aimed at employees of MCHC Group companies in order to help them understand regulations of chemicals and to raise the level of chemicals management. In the 11 seminars held in fiscal 2015, we continued on from fiscal 2014 and conducted various training required in chemical substance management such as providing the updated status of chemical product controls in Japan and overseas, response methods, registration methods, information search methods, GHS trends, and classification and labeling methods by instructors inside and outside of the Company.

# Together with Stakeholders

## Basic approach

**Basic policy in communications with stakeholders**

| | Basic policy | Tools | Opportunities |
|---|---|---|---|
| Customers | We aspire not only to offer products and services that are safe and of high quality but also to build an even better society together with our customers, by working together to solve their increasingly diverse and complex challenges and achieve their targets. | • Websites<br>• News releases<br>• Product brochures<br>• Safety Data Sheets (SDS)<br>• Advertising | • Sales activities<br>• Call center<br>• Questionnaires<br>• *KAITEKI* forum<br>• KAITEKI SQUARE showroom<br>• KAITEKI CAFE restaurant |
| Business partners | Recognizing all entities trading with us as business partners, we strive to build a mutually trusted relationship and foster fair and appropriate trading practices with them. | • Websites<br>• News releases<br>• Product brochures<br>• SDS<br>• Advertising | • Purchasing activities<br>• Business partner briefings<br>• Call center<br>• Questionnaires<br>• *KAITEKI* forum<br>• KAITEKI SQUARE showroom<br>• KAITEKI CAFE restaurant |
| Employees | We sincerely associate with each of our employees and strive to establish rewarding workplaces where each employee may fulfill their potential, and where employees can work with enthusiasm by mutually respecting diverse values. | • Intranet<br>• In-house newsletter (Chemi-Pal, KAGAKU Station) | • Employee surveys<br>• Labor-management consultation<br>• KAITEKI SQUARE showroom<br>• KAITEKI CAFE restaurant |
| Regional communities and 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 the public. | • Websites<br>• CSR reports<br>• Websites and reports for individual business locations and plants | • Plant and laboratory tour<br>• Meetings with local authorities<br>• Chemistry experiment workshops<br>• Internships<br>• Collaboration with regional public benefit corporations<br>• KAITEKI CAFE restaurant |

Together with Stakeholders

# Together with Customers

## Policy Basic concept

The Mitsubishi Chemical Group (MCC Group) aspires not only to offer products and services that are safe and of high quality but also to realize *KAITEKI* by communicating with our customers 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 Indices** C-1: Deliver products (development and manufacturing) for comfortable lifestyle > Find out more

As a member of the Mitsubishi Chemical Holdings Group (MCHC Group), the MCC Group offers solutions to our 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 the Performance Products domain, we promote the shift to high-performance and high value-added products as well as green businesses. In the Industrial Materials domain, we offer global support and high-performance products, and at the same time we are proceeding with the diversification of raw materials to create industrial materials that contribute to the global environment and a sustainable carbon society.

## Activities and Achievements To be a Group that customers will choose as their partners

**MOS Indices** C-2: Improve stakeholder satisfaction
C-3: Earn recognition of corporate trust > Find out more

The MCHC Group shares a common understanding that close communication with our customers is important during the course of achieving accurate insight into social issues and challenges that the customers face, and finding solutions together. Thus, the Group has been conducting customer satisfaction surveys since fiscal 2012. The surveys include customer views regarding the MCHC Group's core business activities related to product, such as quality, supply systems, sales promotion and technical support, as well as the attitudes and reliability of individual operating companies in the Group. Ultimately, MCC hopes that analysis of the survey results and subsequent implementation of a PDCA cycle approach will enable us to provide even better customer service and gain higher levels of customer satisfaction.

The MCHC Group set up the showroom "KAITEKI SQUARE" in its corporate headquarters to communicate with our customers in giving thought to the *KAITEKI* concept. The area comprises three distinct exhibition zones: 1) a special exhibition on solutions for the carbon cycle as one of the social issues of the 21st century; 2) a permanent exhibition

profiling the MCHC Group's technological capabilities and its collective strengths through showcasing products and technologies designed to realize *KAITEKI*; and, 3) a hands-on exhibition where visitors can experience the future through interactive exhibits. The showroom features MCC products designed to bring the *KAITEKI* concept to life, and exhibits technologies under investigation through MCC research and development (R&D) efforts.

After MCHC defined "THE KAITEKI COMPANY" as its corporate brand, the former "Chemistry Plaza" showrooms located in the Mitsubishi Chemical Group Science and Technology Research Center (Kanagawa Prefecture) and the Yokkaichi Plant (Mie Prefecture) were renamed in April 2014 as KAITEKI SQUARE Yokohama and KAITEKI SQUARE Yokkaichi, respectively. In addition, KAITEKI SQUARE Shanghai was opened in the area of Mitsubishi Chemical China Commerce Limited. Moreover, in February 2016, "Epic Hall" at the Sakaide Plant reopened following refurbishment as the KAITEKI SQUARE Sakaide showroom. KAITEKI SQUARE Yokohama houses the cutting-edge technologies and platform technologies that are only found at the R&D center, and KAITEKI SQUARE Yokkaichi introduces the capability of the MCHC Group for product development based on a customer-centered technological service system by collaborating with the Customer Laboratory, which is equipped with devices and equipment for joint development. These facilities provide a venue for communication with our customers.

In the previous fiscal year, from April 2015 to March 2016, the KAITEKI SQUAREs in the corporate headquarters, Yokohama, and Yokkaichi welcomed 8,081, 1,473, and 1,777 visitors, respectively.

Together with Stakeholders

# Together with Business Partners

## Policy Basic concept

As a member of the Mitsubishi Chemical Holdings Group (MCHC Group), the Mitsubishi Chemical Group (MCC Group) will promote and reinforce procurement activities to fulfill our corporate social responsibilities not only in our group but also the entire supply chain including our business partners while aiming to achieve *KAITEKI* , an original concept of the MCHC Group.

To achieve that concept, we act in accordance with the Mitsubishi Chemical Holdings Group Charter of Corporate Behavior and have established the following purchasing guidelines that promote purchasing and procurement activities to ensure fair and equitable transaction practices, compliance with laws and regulations, and the taking into account of human rights and the environment.

### Purchasing Policies (Excerpted)

**Basic 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 Business Partners**

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 basic purchasing policies is available here.

## Policy Ensuring full compliance with the Subcontractor Act

MCC has clearly established an organization for complying with the Subcontractor Act, and has established the Subcontractor Act Compliance Rules which specifically stipulates the intentions and scope of application of the Subcontractor Act and compliance matters in tasks related to order placement and payment. In order to ensure that transactions are conducted pursuant to the Subcontractor Act Compliance Rules, MCC urge employees to participate in in-house study meetings and seminars offered by outside parties, and we systematically conduct audits of those associated with purchasing departments.

## Activities and Achievements Promoting communication through business partner questionnaires

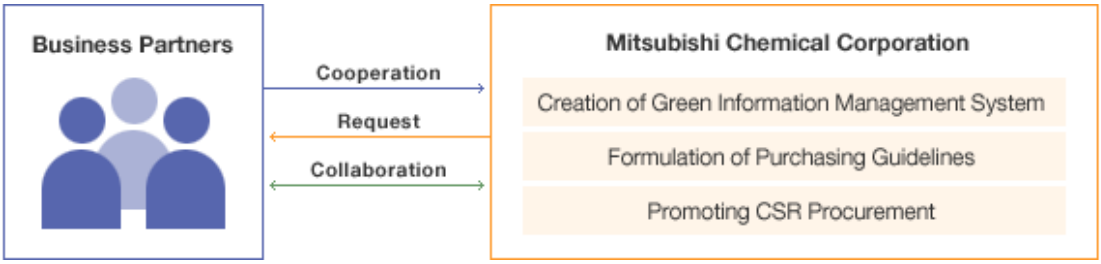
**MOS Indices** S-3: Contribution to solving social and environmental issues through procurement
> Find out more

MCC aims to promote CSR activities together with our business partners to help build a sustainable society. As part of these efforts, we are operating the Green Information Management System to comprehensively manage and convey information on chemical substances contained in products with the cooperation of our business partners. In the basic purchasing policies, we are making efforts to build fair and equitable relationships with our business partners, and ask our business partners to promote CSR initiatives. We are also holding briefings with the objective of deepening our business partners' understanding of these policies and systems.

In fiscal 2010, fiscal 2011 and fiscal 2014, briefings for business partners were held to explain these policies and systems. The business partner briefings provide explanations about MCC's *KAITEKI* activity initiatives, CSR questionnaires and green surveys, and we asked for their cooperation and provided feedback. At the briefing in fiscal 2014, for the company to implement the Mitsubishi Chemical Holdings Group Charter of Corporate Behavior we distributed the "Developing Cooperative Business Practices with Suppliers and Business Partners Guidebook" to receive the support and understanding of business partners in conducting initiatives toward the realization of *KAITEKI*. Taking this into account, we conducted a questionnaire for business partners in April 2016 and utilized it to foster communication with business partners.

To work together as one with our business partners toward the realization of *KAITEKI* going forward, we will further improve communication on both sides and further strengthen CSR initiatives in the supply chain.

- **Working with business partners to create initiatives designed for a sustainable society**



Together with Stakeholders

# 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 concept
- 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
- Helping employees stay healthy to work enthusiastically
- Running of employee surveys
- Building productive labor-management relations

## Policy Basic concept

The Mitsubishi Chemical Group (MCC 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 deal 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.

**Ideal personnel and organizations**

## Personnel strategy to realize sustainable corporate growth and development

Hiroshi Katayama
Executive Officer, General Manager, Human Resources Department, Mitsubishi Chemical Corporation

We have drawn up a strategy in the field of personnel based on the fundamental ideas that each employee holds the key to the Company's sustainable development, and that the Personnel Division is an organization with the power and responsibility to nurture and utilize the Company's human resources. We are currently tackling various issues related to this strategy.

To achieve the management goals set forth in the medium-term management plan *APTSIS 20*, which commenced in April 2016, the Personnel Division has set the following two priorities to realize a strong yet nimble human resources and organizations able to follow through on business strategies:
(1) Strategic human resources management (hiring, assignment, training)
(2) Create a workplace where employees with diverse backgrounds can enthusiastically work together.
To this end, the Personnel Division aims to 1) implement career management, 2) deploy measures worldwide for human resources management, 3) take measures that enable diverse working styles, and 4) enhance health support measures.

More specifically, with regard to implementing career management, we methodically assign human resources with the aim of strengthening business competitiveness and fostering personnel, hold career design interviews to encourage employees to take the initiative at forming their own careers, and monitor the allocation and training of candidates for management positions in a bid to nurture the next generation of managers. As a framework for putting this in motion, the Company-wide Personnel Committee convenes on a regular basis.

With regard to deploying measures worldwide for human resources management, we aim to have Japanese employees work effectively on the global stage and optimally assign and foster overseas nationals. In taking measures that enable diverse working styles, we are cutting overtime hours by improving work efficiency and deploying more effective work systems, such as flex-time systems and teleworking systems (from April 2016). In enhancing health support measures, we are advancing efforts to promote mental health and the self-maintenance of physical health in cooperation with labor unions and health insurance associations, centered on the Health Promotion Committee, which was set up based on the concept of health management.

Ahead of the April 2017 merger of three operating companies under Mitsubishi Chemical Holdings (Mitsubishi Chemical, Mitsubishi Plastics, and Mitsubishi Rayon), we are launching project teams and building our new personnel-related systems.

Activities and Achievements

# Initiatives aimed at human resource development: Training people capable of thinking and acting independently

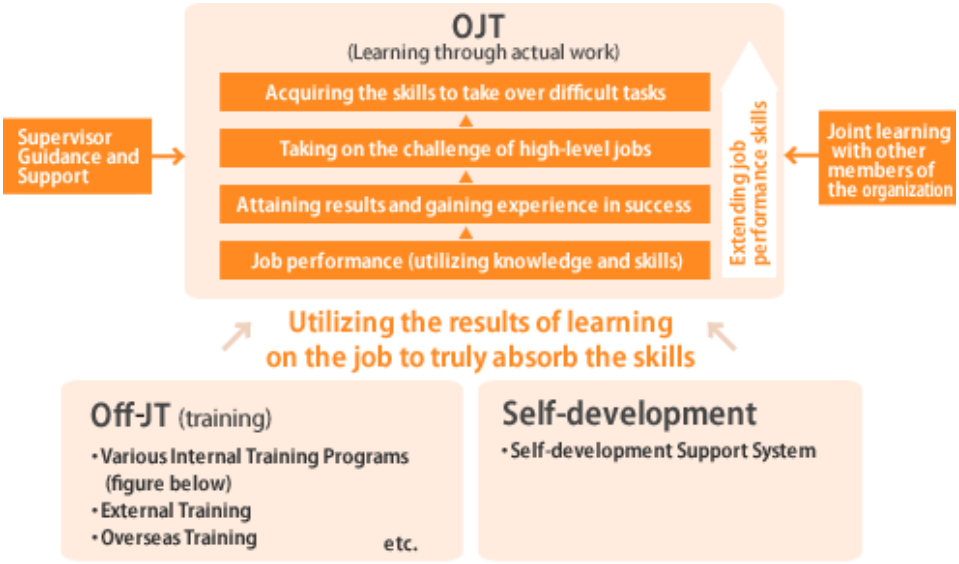
## Basic concept to human resource development

MCC believes there are three important elements in the growth of human resources, namely "OJT"*1 where personnel learn through actual work, "Off-JT"*2 where personnel utilize opportunities outside work for learning and "Self-development" where they 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, MCC supports the growth of its personnel in a number of ways.

*1 OJT : On the Job Training

*2 Off-JT : Off the Job Training

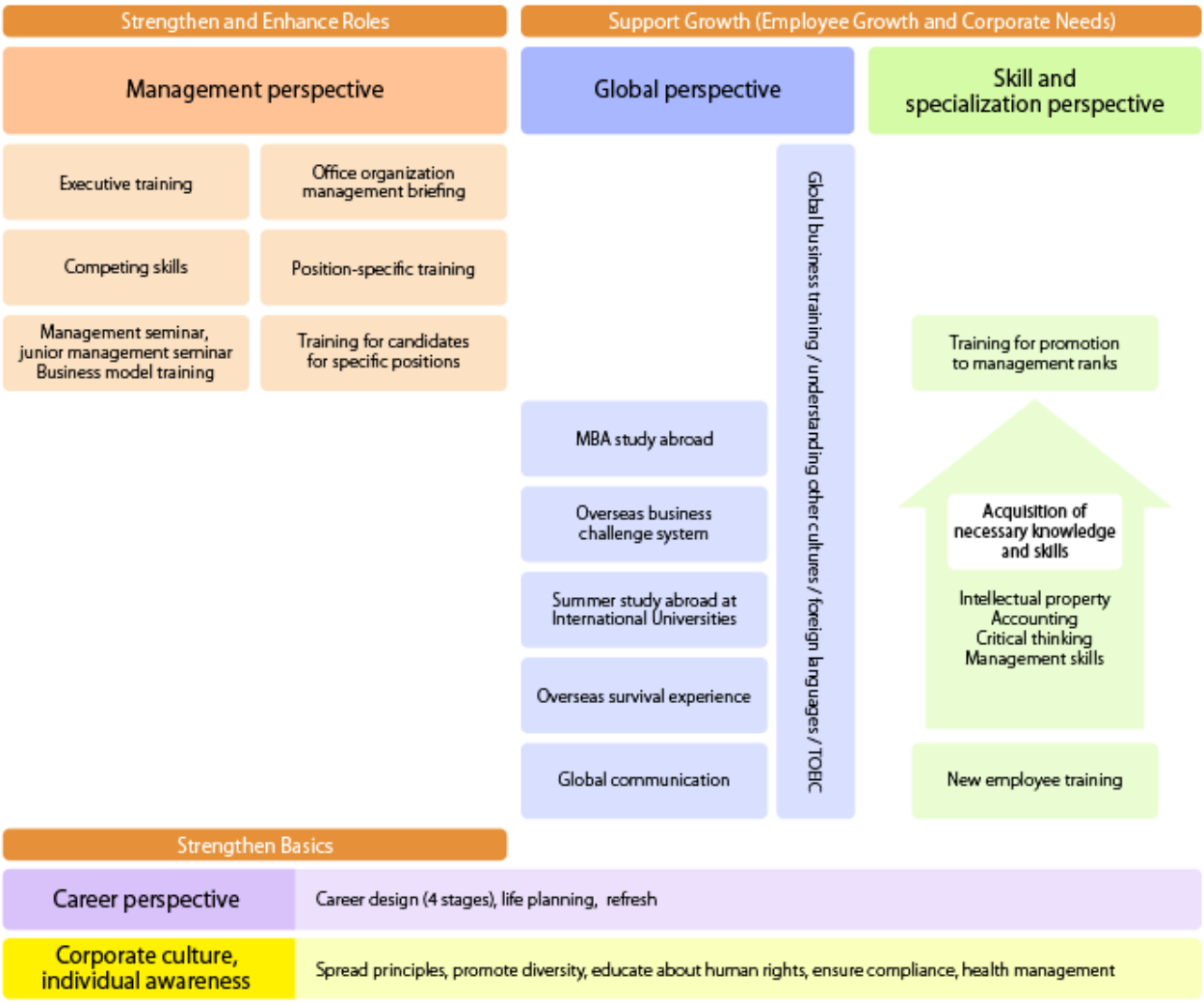
**The three pillars of human resource growth**




**MCC Group employee training system**

At the MCC Group, we believe our employees take better courses of action when their knowledge and awareness improves, and as this becomes a habit, we hope that employees will be self-motivated to do their best at work.

We support the development and growth of our employees through training, utilizing five perspectives based on business, workplace and individual needs: management perspective, global perspective, skill and specialist perspective, career perspective, as well as corporate culture and individual perspective. While organizing and systemizing along these lines, we focus efforts on enabling each employee to grow on their own and improving the diverse abilities of each individual.




Enlarged view

## Help employees with goal management interviews

**MOS Indices** C-2-2: Achieve targets for employee-related indexes ＞Find out more

Since 2001, MCC 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 for the previous fiscal year 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

Training for the development of the next generation of MCC Group executives is centered on participation in the business leadership program organized by Mitsubishi Chemical Holdings Corporation (MCHC). For executives, the Global Executive Program and Group New Executive Training were held. Moreover, the MCHC Group holds programs including Orchestrating Training to promote sharing vision and orchestration, Management Seminars and Junior Management Seminars to learn management literacy, and students are sent to the programs from the MCC Group.

## Cultivating global human resources

The MCC Group is currently making an active effort to globalize its businesses by establishing overseas production bases and rapidly expanding businesses in overseas regions, mainly in China, India, and other emerging countries. Under such circumstances and to train global management human resources we are conducting various types of training and programs in Japan and overseas. There is an overseas dispatch program enabling study at overseas universities and research organizations and the Overseas Business Challenge System that enables language study and practical training at overseas Group companies, The Overseas Survival Experience enabling short-term study under different cultural environments. MCC provides when employees can accumulate global experience on business and lifestyle aspects depending on the individual's level of globalization, including operational experience, overseas experience and language learning.

Activities and Achievements

## Offering opportunities to take on challenges and boost awareness

In addition to usual personnel transfer and rotation among divisions, MCC has established a system (Career Challenge 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. These ongoing efforts are being 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. Moreover, we start career design interviews from fiscal 2015, providing an opportunity for each and every employee to think about their career future through interviews with their supervisors. Furthermore, from fiscal 2016 we introduce a system to promote rotation between divisions.

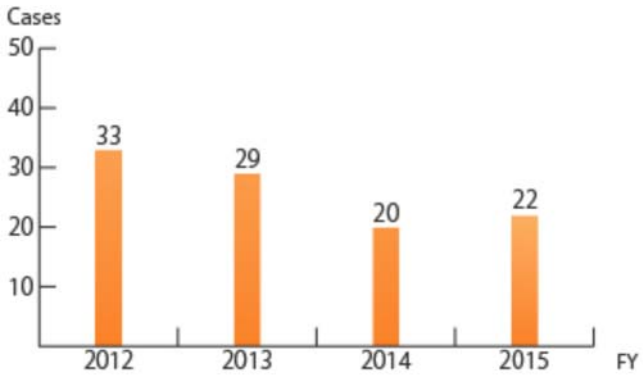
A career counseling system also enables each and every employee to independently consider their career path. Qualified career counselors are assigned in-house and other employees may consult with them at any time about their careers. The system offers awareness-building opportunities for employees who 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**

FY

| Title | | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| Open recruitment | Programs offered (people) | 4 | 13 | 4 | 20 |
| | Applicants (people) | 18 | 32 | 24 | 23 |
| | Accepted (people) | 4 | 12 | 4 | 12 |
| In-house free agent (people) | | 2 | 1 | 0 | 1 |
| In-house internship (people) | | 1 | 1 | 1 | 0 |

**Number of people who consulted career counselors**

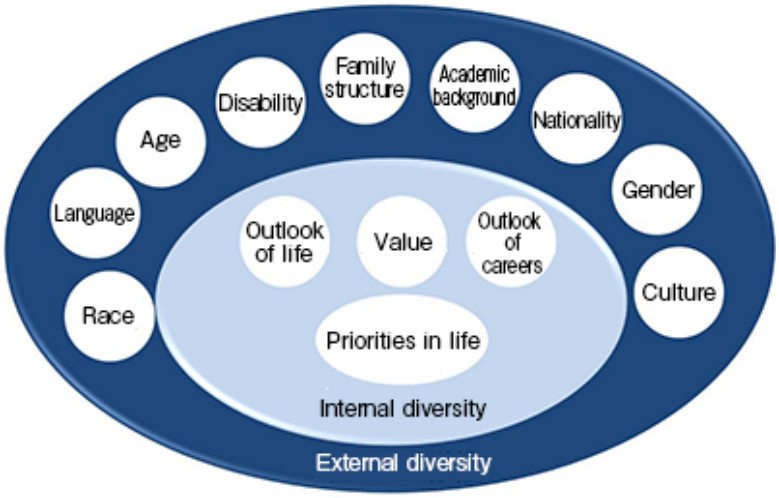


Activities and Achievements

# 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 (MCC Group) proactively promotes diversity for developing a corporate culture where all employees mutually respect each other's values and find work rewarding.

**Diversity applicable to MCC's diversity promotion**




## Efforts to promote the active participation of female workers

**MOS Indices** C-2-2: Achieve targets for employee-related indexes
C-3: Earn 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, MCC in 2008 adopted the Women's Initiative & Work Innovation (WIN-WIN) Plan. Using the targets stated in the plan as guidelines, MCC has established systems to provide necessary career support to female workers, including leave while accompanying the spouse's overseas assignment*4, temporary suspension of transfer*5, and declaration of the desired place of work*6. These systems can be used regardless of gender. Systems for work-life balance related to child care and family care also being used on an ongoing basis. As a result of these initiatives, an in-house survey showed many respondents felt personnel assignments and appointments are conducted regardless of gender and age, and that there have been improvements and progress in expanding job types and fields.

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

FY

| Item | | 2012 | 2013 | 2014 | 2015 | Target values*3 |
|---|---|---|---|---|---|---|
| Ratio of women among management | | 5.3 | 5.8 | 6.3 | 6.5 | over 20 |
| Ratio of women among new hires | Clerical | 36 | 44 | 31 | 50 | over 40 |
| | Engineering | 8 | 18 | 15 | 29 | over 20 |

*3 The target for ratio of women among management is for fiscal 2025 and for women among new hires is for fiscal 2015.
The result for the ratio of women among management as of April 1 for each year

## Status of use of systems for work-life balance

FY

| System | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|
| Child-raising leave (people) | 110 | 99 | 100 | 97 |
| Shorter work hours while raising a child (people) | 218 | 210 | 195 | 195 |
| Nursing care leave (people) | 6 | 6 | 4 | 1 |
| Shorter work hours while providing nursing care to family members (people) | 4 | 5 | 4 | 3 |
| Fertility treatment leave (people) | 0 | 0 | 1 | 0 |
| Subsidy for fertility treatment (cases) | 56 | 56 | 71 | 56 |
| Leave to accompany spouse's overseas assignment (people)*4 | 1 | 3 | 1 | 2 |
| Temporary suspension of transfer (people)*5 | 0 | 0 | 0 | 0 |
| Declaration of desired place of work (people)*6 | 0 | 1 | 1 | 0 |

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

*5 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.

*6 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.

Front Runner

## Taking leave while accompanying the spouse on an overseas transfer

Kyoung-Hi Nishino
Marketing Battery Materials
Department Battery Division
Mitsubishi Chemical Corporation (At the time of using the system)

It was decided that my husband would go to the United States for two years from August 2011 to conduct research at a university there so in order to go with him I took leave under the system for leave while accompanying a spouse overseas. Initially I did not know that this system existed and I considered quitting my job, but when I consulted with my superior he recommended that if I intended to continue working in my current job after returning to Japan I should apply for leave under the system for leave while accompanying a spouse on an overseas assignment.

Deciding that during my time in the United States I wanted to challenge myself to learn skills that would be useful for my work when I return to Japan, I studied English and matters related to business. For English I attended the Extension School at Harvard University, and I obtained an opportunity to acquire business-related knowledge in a program at Georgetown University in Washington DC. I was able to greatly broaden my perspective because I heard lectures given by distinguished professors and by coming into contact with innovative and diverse views through my discussions with my classmates from countries around the world.

After returning to Japan I went back to work from September 2013. I was worried about whether I could do the work as well as before because I had not been involved for two years, but I was given a period of approximately three months to warm up by reacquainting myself with the operations, and after that I returned to full-scale practical operations. It is now approximately nine months since I returned to the workplace but thanks to the warm support of my colleagues, I have already been able to regain the sense of the work I had before I took leave. Going forward I hope to utilize my experiences in the United States for my work.

## Taking child care leave

Takeshi Kato
Waterborne Resin Group, Performance Products Laboratory,
R & D Center, Yokkaichi Plant,
Mitsubishi Chemical Corporation (At the time of using the system)

In May 2013, my first daughter was born so until the end of January the following year I took child care leave. I consulted with my superior about when to take the leave and we chose a time between major projects.

I had two reasons for taking the leave. The first was that I wanted to reduce the burden on my wife during her child care leave as much as possible. The second was that when my wife returned to the workplace I would return to my job assignment away from my family so I wanted to spend as much time as possible with my family before that.

I had my hands full with housework and child care during my child care leave. For example, in addition to housework such as cleaning, laundry and cooking, I changed the diapers of my daughter, gave her baths,

prepared her milk formula, took her for walks, read picture books aloud to her, put her to bed, and so on. Because everything was new to me I could not do things at my own pace and it was more challenging than I had imagined, but with instructions from my wife I became able to do everything related to child care. I experienced the joy of watching my child grow. I think this was suffering and joy I was able to know precisely because I could focus exclusively on the child care. Now that I have truly experienced and understood the difficulties of child care for myself, I have started to do an hour's housework in the morning before going to work.

Finally, I would like to express my deep gratitude to the relevant people in my workplace who provided the support that enabled me to take child care leave.

## Promoting diversity in recruitment

**MOS Indices** C-2-2: Achieve targets for employee-related indexes ＞Find out more

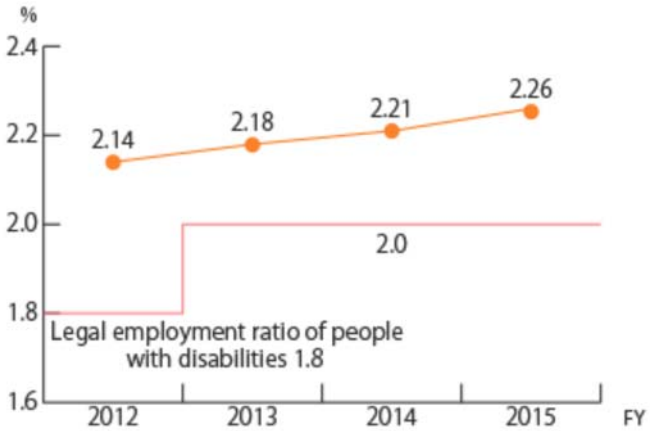
Mitsubishi Chemical Corporation (MCC) promotes diversity in its recruitment activities, with the hope of revitalizing the organization by addressing changes in the business environment and globalization, and by assembling diverse human resources. Specifically, we are working to increase the percentage of female and foreign national hires and for recruitment activities for fiscal 2016, we have established a diversity promotion quota to accelerate diversity, centered on foreign nationals. 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.

## Helping people with disabilities bring out their skills

Under a philosophy of normalization, in 1993 we 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 company's major businesses include information processing services, general printing services and work consigned by MCC. As of June 2016, 75 people with disabilities (of a total of 113 employees) work at the Kitakyushu head office and Yokkaichi branch office in ways that suit their respective skills.

The employment ratio of people with disabilities as of fiscal 2015 is 2.26%. Since the statutory employment ratio was raised to 2.00% in April 2013 we have maintained a level that is above this.

**Change in employment ratio of people with disabilities**




* Includes companies to which MCC's system of disabled person employment ratio applies.

Front Runner

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

Koji Nakano
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 occurrences. Even under these circumstances, we need to cooperate and help each other to develop working environments where each of our employees can feel joy when they work and have a sense of participating in and contributing to society.

Front Runner

## Aiming to be a reliable branch office in Yokkaichi

Masayo Ito (internal disease)
Leader
Kasei Frontier Service, Inc. Yokkaichi branch office

I am in charge of managing progress with orders and overall clerical duties as "the gateway" to customers, as well as take charge of following through on duties related to employees with disabilities working at the Yokkaichi branch office and being there to consult with them.

The Yokkaichi branch office has been in operation for 13 years, is gaining an increasing number of orders and I think it has earned customers' trust. I want to heighten customer satisfaction going forward by enhancing our skills and improving our work accuracy and speed.

Moreover, keeping in mind that health management is the most important thing for individuals, we try to improve by learning from others' working hard so we can all lead better lives and strive hard on a daily basis.

### Utilizing skills of senior workers effectively

Since the Act for Stabilization of Employment of Older Persons was amended in April 2013, companies have become obligated to make employment opportunities available to interested employees up to the age of 65. Staying ahead of social trends, however, MCC established prior to this the Senior Partner System for rehiring enthusiastic and able employees after they reach retirement age. In fiscal 2015, 140 of 158 such employees wished to continue their employment and 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.

Activities and Achievements

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

The Mitsubishi Chemical Group (MCC Group) believes that maintaining work-life balance improves productivity and motivation for both men and women. Based on this thinking, MCC 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

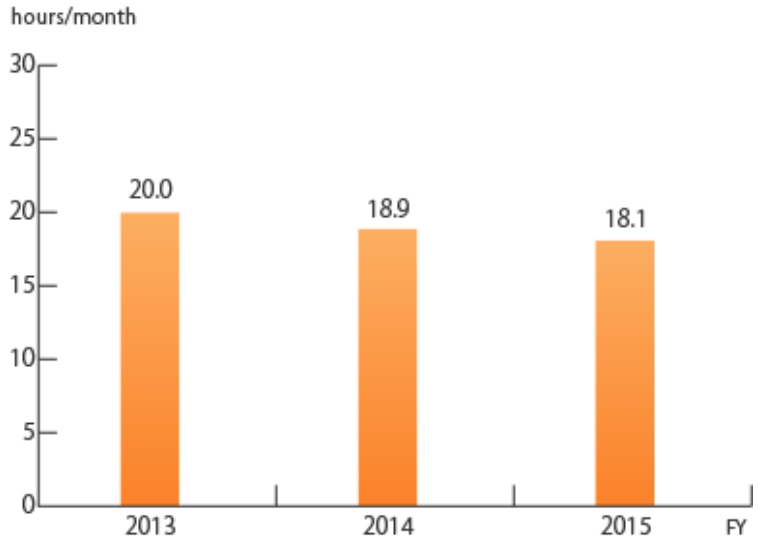
**MOS Indices** C-2-2: Achieve targets for employee-related indexes ＞Find out more

MCC 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.

Specifically, by obeying a system requiring advance permission for overtime and holiday work and prompting people to leave work early, we encourage awareness of completing work within set time periods and then going home. In addition, to make work more efficient we are not particular about previous methods through daily communication between managers and their subordinates.

In fiscal 2015, there were initiatives to increase operational efficiency at each workplace and periodical repairs at plants were small scale, which led to a slight decrease in overtime and holiday work compared to the previous fiscal year.

**Change in overtime and holiday work hours (regular daytime workers)**



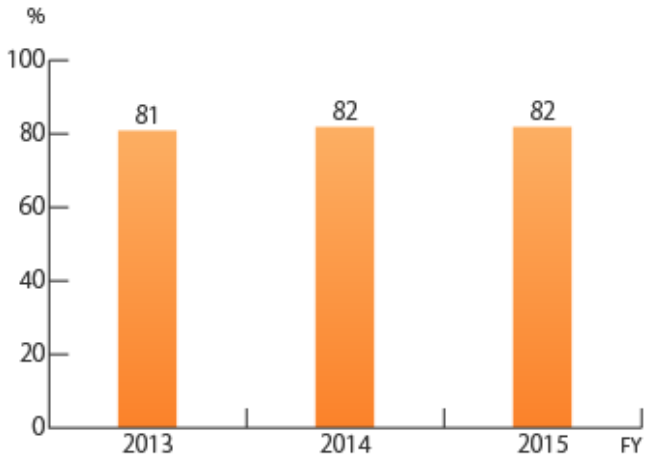
## Measures for encouraging employees to take annual paid vacation

**MOS Indices** C-2-2: Achieve targets for employee-related indexes > Find out more

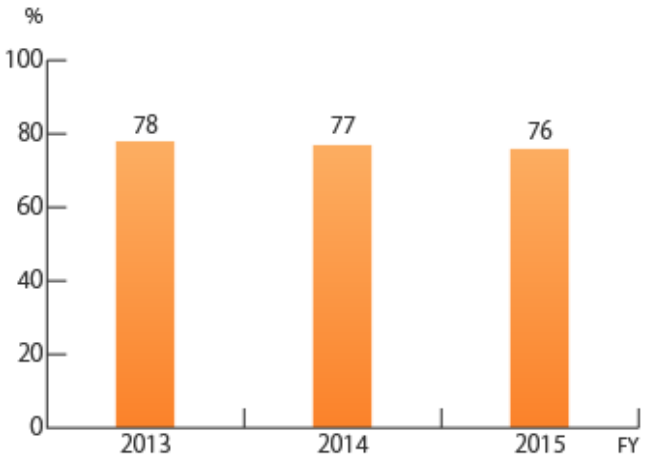
Aspiring to encourage employees to lead well-modulated daily lives with greater leisure, MCC is striving to create an environment that allows employees to take planned vacations. Examples include setting planned annual holidays (three days each year) and adopting a life support holiday system. The life 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, so it is a mechanism that can raise the employees' awareness of 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 (general workers)**




**Change in the ratio of life support holiday system taken (general workers)**



## The drafting of the 4th Action Plan (April 2013 - March 2018)

The Act for the Promotion of Measures to Support the Nurturing of the Next Generation went into force in 2005, following which Mitsubishi Chemical Corporation (MCC) drew up its Action Plan for General Business Proprietors. Then, in 2007 MCC acquired the Kurumin certification as a company providing help for its employees in bringing up children. Since that time, the Company has continued to provide a working environment enabling its employees to achieve a good work-life balance, and since April 2013 we have been promoting enhanced work-life balance support in line with the stipulations of our 4th Action Plan.

**The 4th Action Plan**

We have drawn up the following action plan to realize a working environment in which all employees can achieve a good work-life balance, enabling them to work efficiently and make full use of their skills.

**1. Period of plan: April 1, 2013 to March 31, 2018 (5 years)**

**2. Objectives**

Goal No.1: Provide increased support for child-raising by employees

- Examine ways in which the working environment can be improved to help employees achieve a healthy work-life balance

  Examples: Improve follow-up procedures for employees taking advantage of the Company's work-life balance support system; promote understanding and wider utilization of newly introduced systems; expand maternal welfare activities; promote greater involvement in child-raising by fathers; examine expansion of work-menu options for mothers and fathers during child-raising period; develop a corporate culture that encourages employees to take advantage of system of paid leave for child-raising

Measures taken

April 1, 2013 to March 31, 2018

Formulation and implementation of specific measures; operation of new system, and comprehension of issues needing to be addressed

Goal No.2: Take measures to further foster a corporate culture that helps employees achieve a healthy balance between work and child-raising

- Various educational activities to foster the desired culture across the entire Company Plan and hold lectures and seminars; make use of existing in-house training system
- Continue and further enhance in-house educational activities regarding human rights aimed at helping bring about a gender-equal society

  Take measures to raise human rights consciousness through training
- Take steps to reduce overtime to help employees achieve a healthy work-life balance

  Campaign to encourage employees to leave work at the fixed time; hold talks in the office regarding use of the system of paid leave for work-life balance support, and on cutting back on overtime hours worked, etc.

Measures taken

April 1, 2013 to March 31, 2018　Formulation and implementation of specific measures

Goal No.3: Apply Company-wide regional support measures for fostering sound development of young people

- Provide opportunities for children and adolescents to acquire work experience and experience of participation in the wider society, such as holding factory tours, conducting chemical experiments in front of students at local elementary and junior high

schools, inviting children to visit workplaces, and offering internships and other practical work experience programs

Measures taken
April 1, 2013 to March 31, 2018　Development of specific activity program

## The Act on Promotion of Women's Participation and Advancement in the Workplace
## Formulated a General Business Action Plan

The MCC Group established the Diversity Promotion Group in 2008 as a department dedicated to the promotion of diversity. Following the President's declaration of encouraging women's success in the workplace, we have actively engaged to bring about women's success through an array of measures such as sharing various types of information on the intranet, fostering awareness by holding different types of lectures and exchanges of opinion, and on the systems side, including the temporary suspension of transfer and leave while accompanying the spouse's overseas assignment.
In conjunction with the enactment of the Act on Promotion of Women's Participation and Advancement in the Workplace, the MCC Group has formulated the following General Business Action Plan. The Group will intensify active engagement to encourage women's success, taking into account this plan.

**Action Plan**

**1. Plan period: April 1, 2016 to March 31, 2021 (5 years)**
**2. Numerical target: Percentage of women in management at 8.5% or higher by fiscal 2020**
**3. Objectives**

- Establish an environment to enable women to continue to work if they want to
  Accept diversity and raise awareness toward creating a workplace culture to enable both men and women to contribute to the workplace and the home
  Realize flexible work styles, including systems for reduced working hours and teleworking
  Develop initiatives to reduce long overtime hours (operational efficiency and standardization)
- Build and operate structures to enable women who want to work to display their abilities
  Enable individuals to think about their own career and establish a structure where organizations support that (career design interviews and training)
- Increase the number of women employees active within the MCC Group and expand the fields they work in
  Conduct promotional activities among jobseekers regarding workplaces where women can succeed
  Recruit female career employees equivalent to managers
  Expand assignment of women to workplaces conventionally staffed by mainly male employees to provide diverse work experience

Activities and Achievements

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

**MOS Indices** C-3: Earn recognition of corporate trust ＞Find out more

The Mitsubishi Chemical Group (MCC Group) established Guidelines for the Promotion of Human Rights Awareness in 1980, tackled human rights issues to fulfill its social responsibility as a corporation from the outset, and has continued to engage in human rights education and awareness-raising activities ever since. As initiatives related to human rights and respect for diversity are so closely related, we revised our human rights and diversity awareness-building guidelines from fiscal 2014 and will tackle these issues together going forward. Today, we conduct training and awareness-building 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.

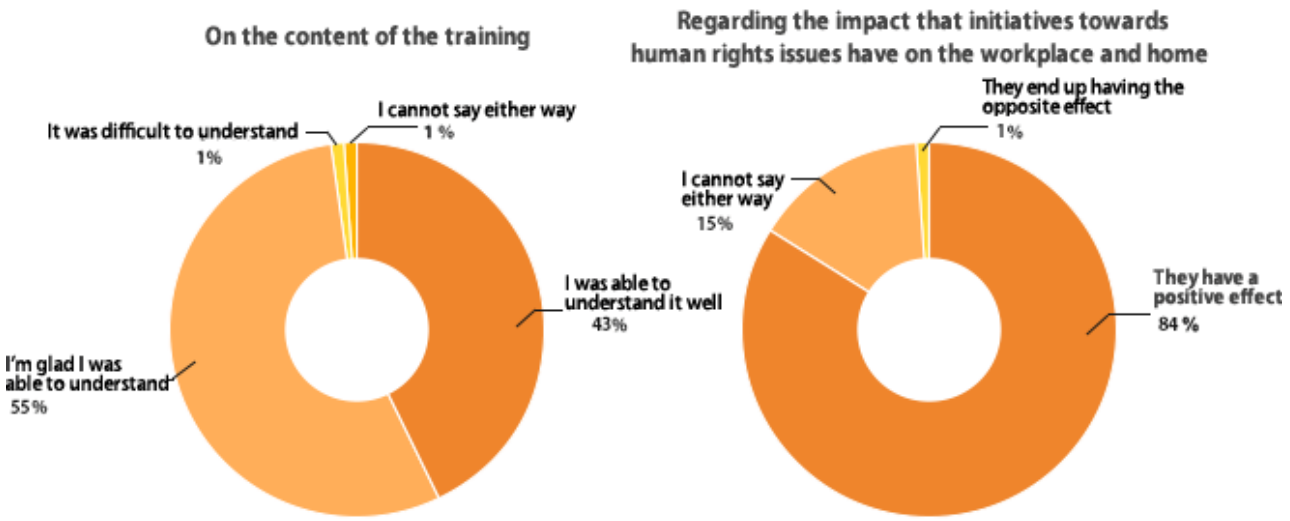
Each year, we implement timely initiatives and in fiscal 2015, we set out an activity policy for working toward global standards of human rights, reconfirming and understanding the Buraku issue, eradicating prejudice as well as preventing sexual, power, and other forms of harassment, and conducted training and awareness raising. In regard to working toward global standards of human rights, in particular, we conducted management-level awareness-raising training centered on the executive and management class as there is an increasing human rights risk in conjunction with the globalization of business, which raises the importance of acquiring the necessary understanding and expertise of global standards of human rights. We conducted 418 group training sessions aimed at all employees working within the Group. In total, 8,028 employees attended these sessions. Furthermore, as human rights became increasingly important, we collected human rights slogans as a chance to raise awareness among employees and received 13,500 entries. Human Rights E-Training is also continuously administered using the Company Intranet, and has been used by some 7,850 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).

**Human rights awareness activities**

FY

| Training description | | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| Group seminars | Number of times | 556 | 450 | 446 | 418 |
| | Number of people | 11,611 | 8,710 | 8,925 | 8,028 |

- **Results of questionnaire after group human rights training (2015)**




MCC precludes any and all discrimination in its hiring and selecting employees. MCC takes sufficient consideration of the privacy of the persons concerned in the case that infectious diseases, such as HIV, or sexual minorities (LGBT people) are made known after joining the Company, and takes appropriate steps.

### Guidelines for the Promotion of Human Rights and Diversity Awareness (Preamble)

Based on the Mitsubishi Chemical Holdings Group Charter of Corporate Behavior, we approve diversity and strive to be a company that does not infringe on the respect and rights of individuals, and herewith lay down these guidelines.

1. Basic Policy

(1) As part of our corporate social responsibility, we work to increase awareness of various human rights issues such as social discrimination against outcast people, and prevent all cases of discrimination or harassment.

(2) As part of our corporate social responsibility, we work to respect diversity among people, and create a company where employees can maximize their abilities with secure physical and mental health.

Activities and Achievements

## Helping employees stay healthy to work enthusiastically

The vitality of each and every employee is the driving force of the MCC Group as it aims to realize *KAITEKI*. With the understanding that health is at the core of this vitality, we help employees maintain their health so they can focus on work with vigor.

In addition to past initiatives, in fiscal 2013 MCC established "Health Promotion Committee" as an entity consisting of corporate, labor union, and health insurance association representatives. The committee discusses health-related issues and solutions, and creates strategic objectives that are incorporated in measures at the corporate level and by health insurance associations.

The MCC Group shares information about these measures with the aim of promoting a common set of measures

when possible.

In our promotion of health management from fiscal 2016, we aim to continue and deepen our efforts based on this concept and these measures.

## Initiatives as a foundation for health promotion

We encourage employees to get regular health checkups when appropriate, and support the self-management of their health with proper follow-up care by an industrial physician or health nurse after receiving the health checkup. Working with the MCC health insurance association, eligible employees are given specific health guidance*7 in a proper setting.

With regard to promoting mental health, we offer mental health training and have put in place a system that employees can easily use for receiving advice, while also taking advantage of EAP*8 services. Regarding the newly mandated Stress Check Test, MCC has established a system to operate effectively and appropriately, and will implement Stress Check Test sequentially on an annual schedule.

For employees who have difficulty performing their regular work duties due to illness or injury, we have individual employment support programs to ensure seamless support.

*7 Specified health guidance: This is guidance for monitoring and maintaining health aims to prevent lifestyle-related ailments, with an emphasis placed on preventing and improving metabolic syndrome for insured persons and their dependents between the ages of 40 and 75.

*8 EAP: EAP is an abbreviation for employee assistance program. Outside professional entities provide mental health counseling with qualified counselors.

## Initiatives to invigorate employees and workplaces

MCC aims to reform the organizational climate by promoting diverse working styles, creating work environments that bring out the best in employees and modifying personnel measures in ways that allow diverse human resources to work at the best of their abilities in a rewarding workplace.

In terms of offering health assistance, MCC conducts a health survey to better understand the health of its employees, and uses the results alongside employee surveys (described below) to provide feedback to the workplace and address issues in organizational management. Moreover, the results of the health survey are used in planning health promotion events and other measures to support the health of employees across the MCC Group.

Activities and Achievements

## Running of employee surveys

**MOS Indices** C-2-2: Achieve targets for employee-related indexes ＞Find out more

The MCC Group has conducted employee surveys since fiscal 2006. In fiscal 2015, 20,138 employees, representing roughly 92% 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

The Mitsubishi Chemical Labor Union exists at MCC. It is made up of the headquarters and seven branches, Tokyo and Districts, Kurosaki, Yokkaichi, Mizushima, Sakaide, Kashima and Tsukuba. In October 2014, it switched from a federation of labor unions to a single organization. As of the end of March 2016, there were approximately 5,000 members of the labor union, accounting for about 56% of the employees belonging to MCC. The MCC Labor Union does not participate in senior bodies, but pursues 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 and exchange opinions at biannual management and labor committee meetings.

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

## Front Runner

### Mitsubishi Chemical Labor Union

Masaki Okazawa
President
Mitsubishi Chemical Labor Union

Based on a union philosophy of "Working together with the Company," we contribute to corporate growth and development to realize an enriched and leisurely life.

In conjunction with environmental changes including globalization and an aging society with a low birthrate, working methods and lifestyles are changing and diversifying. Under these situations, we realize that creating a workplace environment where individuals feel safe and secure is a matter of highest priority.

Consequently, in addition to the improvement of working conditions, we think that good relations between the Company and labor union, including relations between workplace managers and rank-and-file employees are important. So, we state what should be stated and cooperate where cooperation should be given through various Management Council Meetings and union activities, and endeavor to build a healthy labor-management relationship based on trust and understanding.

Together with Stakeholders

# Corporate Citizenship Activities

## Policy Basic concept

As a member of the Mitsubishi Chemical Holdings Group (MCHC Group), Mitsubishi Chemical Corporation (MCC) engages in corporate citizenship activities that include fostering the development of the next generation, communicating with local communities, and disaster support in line with the Mitsubishi Chemical Holdings Group Corporate Citizenship Activities Policy.

### The Mitsubishi Chemical Holdings Group Corporate Citizenship Activities Policy

As good corporate citizens, the MCHC Group has been striving for realizing *KAITEKI* with a better understanding of 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 in various ways including our business activities where we are located.

**[Approach]**

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

Activities and Achievements

# Disaster support

## Activities in support of post Great East Japan Earthquake reconstruction

**MOS Indices** C-3: Earn recognition of corporate trust ＞Find out more

Many places in Tohoku suffered enormous damage from the tsunami that followed the Great East Japan Earthquake. As part of the MCHC Group's activities to support reconstruction in Tohoku, we invited primary school students from Kamaishi City and Otsuchi Town in Iwate Prefecture, together with a guardian for each student, to Tokyo in cooperation with Good Neighbors Japan*1, an NPO. Called "Let's Go To Tokyo," this event, held for the fourth time, enabled the group of 70 people to visit Tokyo as part of Tohoku reconstruction support. Participants went sightseeing to Tokyo Disneyland and TOKYO SKYTREE, and they took part in chemistry experiment workshops in our head office building. We believe that this event gives the children both a refreshing break and an opportunity to learn more about the MCHC Group's business operations.

*1 Good Neighbors Japan is a Japanese Specified Nonprofit Corporation and part of Good Neighbors International, which is an international, non-profit humanitarian organization committed to child education, community development and emergency relief projects over 35 countries.

"Let's Go To Tokyo"

Chemistry experiment workshop

Furthermore, the MCHC Group held in its head office building exhibitions of local specialty products of Iwate Prefecture, Miyagi Prefecture and Fukushima Prefecture. On the days of the exhibitions, many employees purchased a wide variety of goods, and the events were a great success.

One of the exhibitions of local products from three prefectures in Tohoku

The MCHC Group has also made donations and provided relief supplies to help disaster-affected areas. Moreover, it has supported volunteer activities by its employees in these areas. The Group plans ongoing continuation of activities supporting the recovery of Tohoku.

Activities and Achievements

# Fostering the development of the next generation

## Chemistry experiment workshop

**MOS Indices** C-3: Earn recognition of corporate trust ＞Find out more

The MCC Group runs a chemistry experiment workshop in each plant with the aim of sparking an interest in chemistry and science among the children who will lead the next generation.

### Delivery of chemistry experiment workshop (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, Kashima Plant has run a delivery of science experiment workshop for elementary school fifth graders in Kamisu City, Ibaraki Prefecture, where the plant is located, since 2000.

For fiscal 2015, experiments on atmospheric pressure were held at four local elementary schools under the subject of "The air is powerful" in March 2016. Being amazed to observe how easy it was to break film and to crush aluminum cans or large square cans by using air pressure and how easy it was to lift up a heavy plastic container or an adult simply by blowing air into a sealed bag with a straw, the students enthusiastically took part in the experiments together with the employees who served as the instructors.

### 2015 Youngster's Science Festival in Kurashiki (Mizushima Plant)

In November 2015, we set up a booth for scientific experiments and engineering experiences at the 2015 Youngster's Science Festival in Kurashiki, Okayama Prefecture. The festival is a science education event held on a nationwide scale with the aim of helping youngsters understand the attraction of science through real-life experience. This was the 17th science festival in Kurashiki, and Mizushima Plant has taken part every year since 2006.

On the day, we worked with children on experiments using liquid nitrogen, and making key chains using plastic boards, contributing to raising children's interest in science.

## Chemistry experiment workshop during the Kurosaki Shuku Autumn Festival (Kurosaki Plant)

Kurosaki Plant held a chemistry experiment workshop during the Kurosaki Shuku Autumn Festival in the focused area in front of Kurosaki Station in Kitakyushu City, Fukuoka Prefecture. This is the twelfth time Kurosaki Plant has held the workshop, which is held each year.

Once again, employees of the R&D Center and Administrative Department played central roles as instructors to conduct experiments making slime from laundry starch and fragrance from super-absorbent polymer and aromatic oil.

The workshop was such a great success that many children lined up to take part, and they conducted the experiments with interest.

## Mitsubishi Chemical Junior Designer Award (MCJDA)

Mitsubishi Chemical has supported the Mitsubishi Chemical Junior Designer Award (MCJDA) since fiscal 2006 for supporting young designers and promoting design. MCJDA is the only system in Japan giving awards to the 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 2015, the 15th time awards had been presented, and 177 works were sent in. Among them, 13 won awards for their uniqueness, representing great variety.

2015 MCJDA Awarding Ceremony

"14:31 p.m. 2013.7.3 in Tamagawa Aqueduct" (by Sijia Sun) was awarded the 2015 MCJDA Grand Prize

Activities and Achievements

# Communicating with local communities

## Coordination with local public interest corporations

Kurosaki plant is a member of Kitakyushu International Techno-cooperative Association (KITA). We take part in activities to help promote international cooperation through personal exchanges and technology transfers by providing opportunities for international training and developing the curricula in Kitakyushu City, Fukuoka Prefecture. Mitsubishi Chemical has participated in these activities since KITA was first established in 1980 and remained involved with the running of KITA, by successive Kurosaki Plant general managers' having served as directors of KITA to the present.

For fiscal 2015, a total of 36 trainees from 14 countries were accepted into 4 courses held for 11 days. The training consisted of learning about environmental technology for managing air pollution and industrial wastewater, as well as developing instructors to train equipment management technicians.

The trainees have high motivation for learning and are highly interested in the environmental conservation and equipment management technologies employed by Japan, which achieved environmental improvements in a short time from having been called one of the world's major polluters. In the meantime, the team of instructors conducts the training enthusiastically with the hope that the trainees will make use of what they learned in the training after they return to their own countries.

Activities and Achievements

# Employees' participation in volunteer activities

## Participation in Tokyo Greenship Action

The MCHC Group participated in Tokyo Greenship Action, an event held once in June and again in November 2015 to bring the Tokyo Metropolitan Government, companies and NPOs together to preserve nature conservation areas, with the aim of presenting opportunities for the Group employees to have an interest in and to participate in volunteer activities. A total of 58 employees from the MCHC Group and their families volunteered to trim trees and cut grass in greenery conservation areas in Tokyo.

Mitsubishi Chemical plans to provide employees with information and opportunities to participate in volunteer activities.

# 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. As of March 2016, Mitsubishi Chemical Corporation and its 177 Group companies conduct business in the domains of performance products and industrial materials.

## Corporate data of Mitsubishi Chemical Corporation (March 2016)

### 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 2016)

### Mitsubishi Chemical Corporation

| | |
|---|---|
| **Subsidiaries** | 141 |
| **Affiliates** | 36 |
| **(Total)** | 177 |
| **Number of employees** | 5,289 (non-consolidated)<br>22,866 (consolidated) |

## Introduction to business

**Performance Products Domain**

Quickly identifying the diverse needs of industry and society, the Mitsubishi Chemical Group precisely addresses the varying needs of each of its customers by integrating its comprehensive and unique technological capabilities and product development capabilities. Mitsubishi Chemical provides a wide variety of high value-added materials, parts and services, primarily for the information electronics, environment & energy and amenity (healthcare and foods)

fields. The Mitsubishi Chemical Group's diverse product lines, ranging from specialty chemicals and performance polymers to optical, electronic and display materials, as well as imaging materials and rechargeable lithium-ion battery materials, can be found displaying excellent functions in products used throughout various situations within society.
Click here for more details

**Industrial Materials Domain**

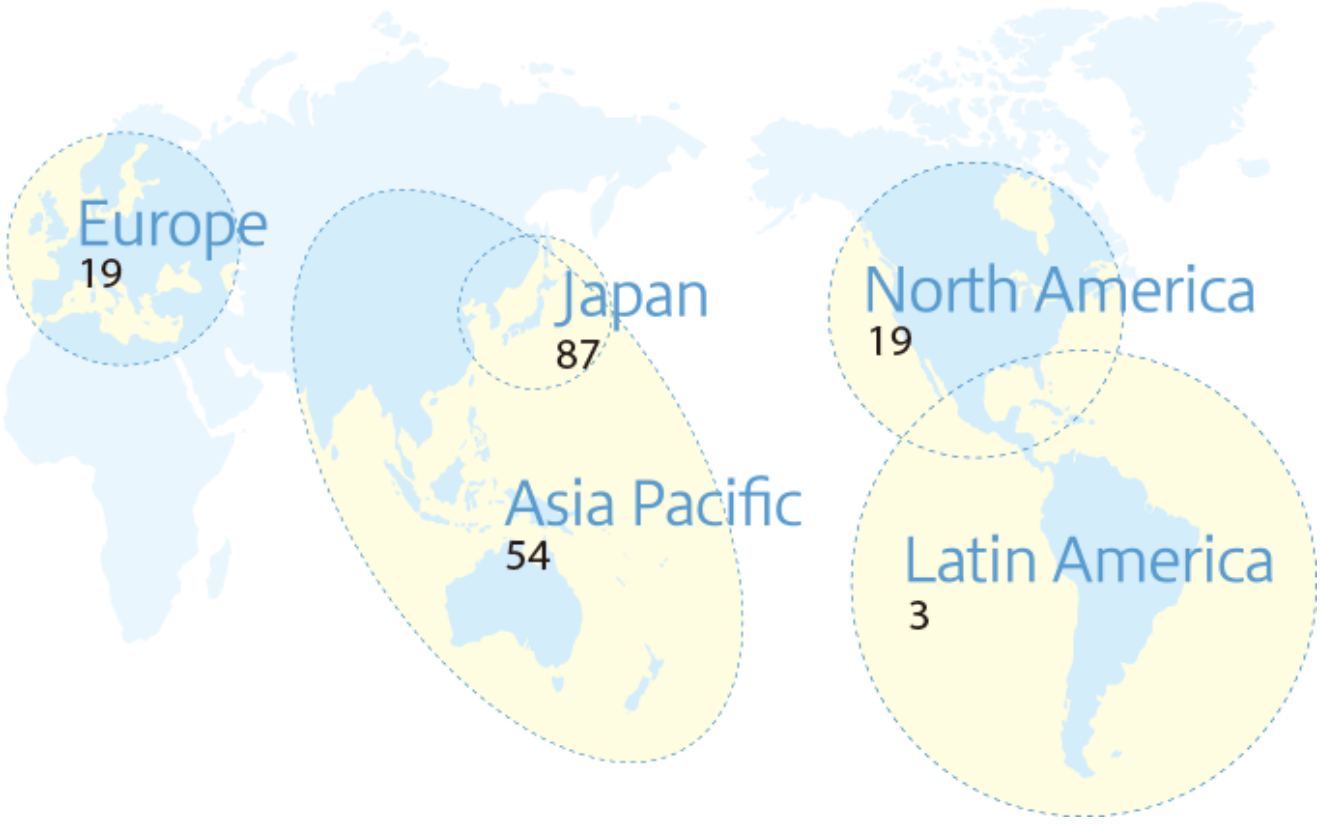
The industrial materials businesses of the Mitsubishi Chemical Group are broadly divided into basic chemicals, a large number of second and third derivative products and carbon materials. In the area of basic chemicals, we enhance competitiveness of the olefin center by constructing an optimal production system and developing an array of product chains covering a variety of solvents and resin products with the olefin center as a core. In derivatives, the Mitsubishi Chemical Group leverages its advanced process development capabilities and diverse applied technologies. Mitsubishi Chemical concentrates management resources on products that are globally competitive, while streamlining commodity products. In carbon materials, Mitsubishi Chemical offers various product chains, beginning with the production of coke. Further, from a global perspective, Mitsubishi Chemical supports the building of bountiful societies.
Click here for more details

**Others**

Mitsubishi Chemical Group companies are involved in engineering, logistics, information systems, environmental and applied analysis, surveys, R&D, human resources, education, accounting, services, and chemical products.
Click here for more details

## Global network

Number of Subsidiaries and Affiliates (Japan) : 87
Number of Subsidiaries and Affiliates (Outside Japan) : 95

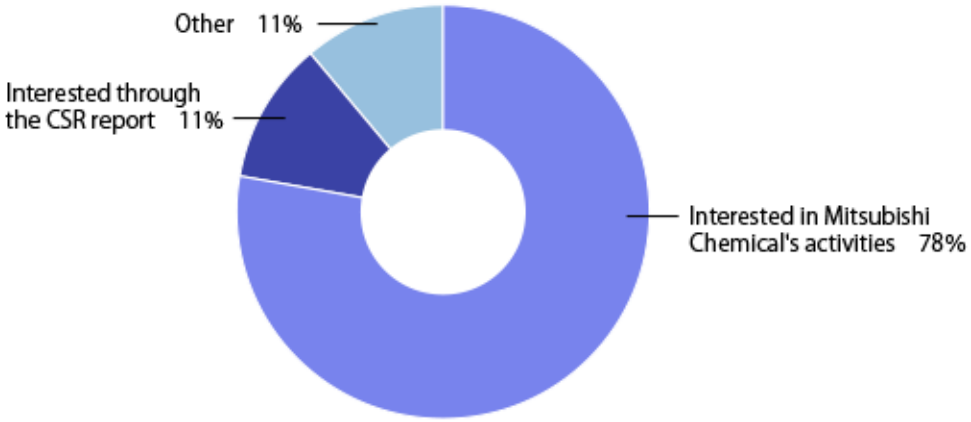


# Results of questionnaire on CSR Report 2015

Thank you for your valuable opinions and comments on CSR Report 2015. 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.

## Q1: What was your reason for visiting the website?




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