

KAITEKI Value for Tomorrow

Mitsubishi Chemical Holdings Group

Sustainability Report 2018



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Editorial Policy

Mitsubishi Chemical (MCC) publishes the *Sustainability Report* with the aim of reporting to stakeholders on its initiatives aimed at its vision, realizing KAITEKI.

The fiscal 2018 report is organized into three main sections, "Management Structure," "Responsible Care Activities" and "Together with Stakeholders," which detail the efforts that comprise the foundation of our activities aimed at realizing KAITEKI. The report also includes information on our efforts to help achieve the Sustainable Development Goals (SDGs).

About the *Sustainability Report*

To provide information on MCC's initiatives aimed at enhancing sustainability to as many stakeholders as possible, we disclose such efforts via our website. In addition, we have made the entire *Sustainability Report 2018* available as a single PDF file that can be downloaded from the website.

Reporting Period

Fiscal 2017 (April 2017 to March 2018)

The report also covers some activities undertaken in fiscal 2018.

Scope of the Report

The basic scope of reporting encompasses Mitsubishi Chemical Corporation on a non-consolidated basis. However, certain sections contain reporting on a consolidated basis that encompasses Group companies. The scope of reporting, whether non-consolidated or consolidated, is indicated in each instance.

Referenced Guidelines

- Ministry of the Environment
Environmental Reporting Guidelines 2012
- 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 conditions, 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 their writing. As such, actual future social conditions and business activity outcomes may differ from the forecasts and estimates presented in this report.



Message from the President



As a core operating company of the Mitsubishi Chemical Holdings (MCHC) Group, Mitsubishi Chemical (MCC) seeks to provide solutions to environmental and social issues and contribute to the sustainable development of people, society and the Earth through its businesses built on a foundation of chemistry. In this way, we aim to realize KAITEKI.¹

Masayuki Waga
President & CEO

A Time of Transition

2017 saw the launch of the new MCC and marked the start of a time of transition encompassing all aspects of society. Technologies previously regarded as mere possibilities—IoT, AI, self-driving vehicles and others—rapidly took on greater, more impactful roles. Even as debates over their feasibility continue, their use has begun to spread.

Technology is not the only factor driving us toward such change. Numerous global-scale risks have materialized in recent years: climate change is worsening, natural resources are being depleted, disparities in water resource distribution are increasing, populations around the world are expanding and graying, and new food and agricultural issues are emerging. These and other issues have brought the problem of sustainability, for individuals, society and the global environment, to a head. Unless we take action, there will be no future. Sustainability is no longer just an ideal; it is a challenge to which we absolutely must rise.

All of these issues are interlinked. For example, what impact might the widespread adoption of self-driving vehicles have? Human drivers present the risk of collisions, necessitating sturdy, heavy vehicle frames for passenger safety. But what if self-driving vehicles could virtually eliminate that risk? A new type of vehicle designed to put passenger safety first but with a lighter frame could become viable. Vehicle weight reductions could improve energy efficiency, creating less environmental burden.

This kind of push and pull between technological development and the critical need for sustainability is creating major waves all around us. These forces are on the verge of changing not only industrial structures, but our lifestyles and the ways we think about value.

¹ KAITEKI: KAITEKI means “the sustainable well-being of people, society and our planet Earth.” It is an original concept of the Mitsubishi Chemical Holdings Corporation 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.

Aiming to Realize KAITEKI

The MCC Group is composed of approximately 40,000 employees who bring to the table a wide range of cultures and, together, provide a wide range of products and services. Two common themes run through all we do. The first is providing solutions through chemistry-based products and services, and the second is contributing broadly to environmental and social sustainability through our businesses, that is, realizing KAITEKI. These are our starting point and our ultimate goal; they are at the core of the MCC Group's identity, its pride and are the foundation of its management. Our commitment to these two points will not waver, whatever the future may bring.

The path from the starting point to the goal, however, is subject to constant evolution and change. Keeping our finger on the pulse of such change and anticipating the twists and turns to come is a vital part of what we do. Building on such insight, we will generate innovation and provide solutions through flexible, nimble business. Our focus on the unchanging goal of realizing KAITEKI will keep us from losing our way, no matter how the path we walk changes.

Health and Productivity Management and Workstyle Reforms

In this time of transition, how should we proceed along this ever-changing path? Our greatest asset is our people; we believe that nothing is more important than ensuring that every employee can exercise their abilities to the fullest. To this end, we must look beyond convention and fundamentally reexamine our ways of working, asking basic questions about whether our existing approaches are really optimal and what the essence of our work really is. Creating environments that enable employees to make full use of their abilities is also crucial. We must maintain and improve our health, realize flexible working styles suited to each individual and build strength from diversity. This is the essence of health and productivity management and our workstyle reforms. By striving to change employee mindsets while investing management capital, the company and its employees will work together to this end. When all employees can give their best, the MCC Group will produce even better results. I hope to make this approach a constant going forward.

To Our Stakeholders

There is no future in merely carrying on as we have. As we head into a time of discontinuous change, we must not lose sight of our starting point or our goal. We must flexibly adapt while reshaping the road toward that goal and push forward with all that we have. By doing so, I am confident that we can get closer to our goal—realizing KAITEKI—one step at a time.

Building on a foundation of chemistry, MCC will contribute to realizing KAITEKI through its businesses. We ask for your continued understanding and support.



Aiming to Realize KAITEKI

As a core operating company of the Mitsubishi Chemical Holdings (MCHC) Group, Mitsubishi Chemical (MCC) shares the MCHC Group's mission, vision and core values, working to realize KAITEKI by providing solutions to environmental and social issues and contributing to the sustainable development of people, society and the Earth.



What is KAITEKI?

Humanity has advanced to where it is today as a result of diverse economic activities as well as scientific and technological progress. At the same time, however, we have upset the natural balance of the global environment and are now confronted with complex problems ranging from climate change and natural resource and energy depletion to the uneven distribution of food and water. In addition to addressing these global issues, corporations are being asked by society to contribute to the fields of healthcare and medicine and to explore ways to improve convenience and advance technology while coexisting harmoniously with the planet.

KAITEKI refers to “the sustainable well-being of people, society and our planet Earth.” An original concept coined by the MCHC Group, KAITEKI points to 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.

MCC shares the vision of realizing KAITEKI with MCHC and, building on a foundation of chemistry, provides solutions to environmental and social issues through businesses related to performance products and industrial materials. In addition, MCC aims to more broadly contribute to the sustainable development of people, society and the Earth.

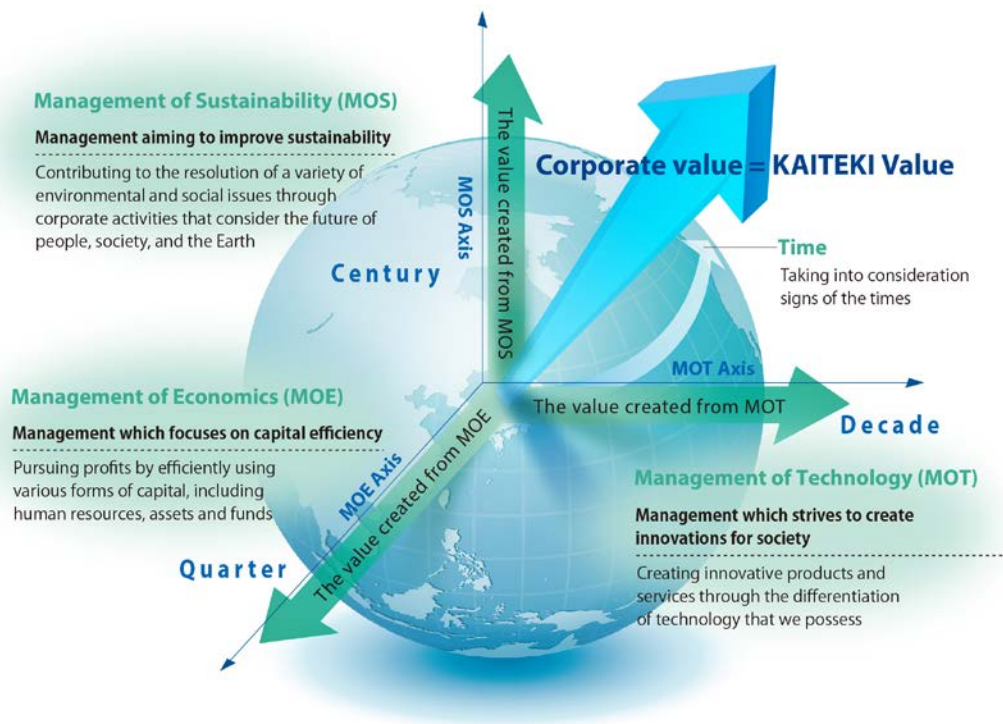
To advance corporate activities under the vision of realizing KAITEKI, we must earn the trust of stakeholders, and to do that, we must work in harmony with our stakeholders. As we advance our corporate activities, we will share our goals and the challenges we face with our stakeholders through dialogue and disclosure.

KAITEKI Management

In line with KAITEKI, the MCHC Group seeks to advance corporate activities aimed at solving environmental and social problems. To do so, however, conventional value criteria and management methods are not sufficient.

We have therefore created our own management method, which we named KAITEKI Management, and put it into practice. This method is 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. The MCHC Group evaluates and implements corporate activities based on these axes, its mission and its core values, always informed by an awareness of shifting trends and opportunities. We refer to the corporate value constituted by these three axes as KAITEKI Value. By enhancing said value, we get closer to realizing KAITEKI while improving the Group's sustainability. As an operating company, Mitsubishi Chemical also practices KAITEKI Management, implementing PDCA cycles using quantitative scoring on each of the three axes as it strives to increase corporate value, i.e., KAITEKI Value.

The Mitsubishi Chemical Holdings Group's KAITEKI Management



Materiality Assessment

Mitsubishi Chemical Holdings (MCHC) conducts materiality assessments to identify important management issues (materiality) and further enhance KAITEKI Value. While referring to processes outlined in international sustainability guidelines and incorporating the viewpoints of stakeholders, MCHC identifies and prioritizes important management issues that it needs to work toward resolving to realize KAITEKI. MCHC has reviewed its materiality assessments in light of the management strategies and corporate activities for *APTSIS 20*, the medium-term management plan that ends in fiscal 2020. Mitsubishi Chemical, too, is implementing activities based on the results of the MCHC Group's materiality assessments.

Materiality Matrix

Material Issues Related to the Global Environment

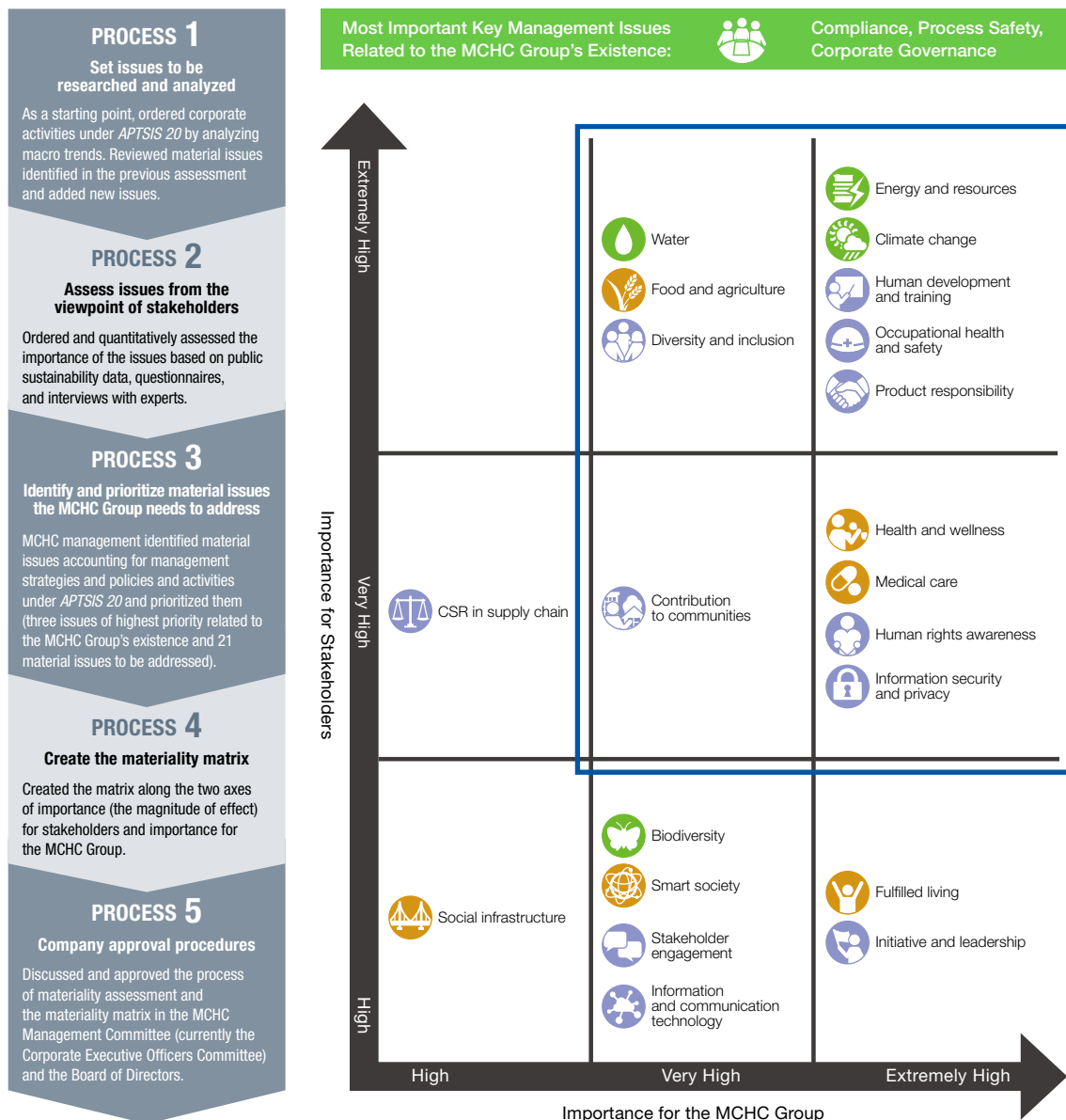
Key management issues that the MCHC Group should address through its corporate activities, innovation, and provision of products and services in the aim of achieving the sustainable well-being of our planet Earth.

Material Issues Related to Social Systems

Key management issues that the MCHC Group should address through its corporate activities, innovation, and provision of products and services in the aim of creating the sustainable well-being of society.

Material Issues Related to the Company and Its Organizational Structure

Key management issues that the MCHC Group should address in its internal operations and external relations as a corporate group aiming to realize KAITEKI.



MOS Indices

As part of its efforts to promote KAITEKI Management, Mitsubishi Chemical Holdings (MCHC) has created the MOS (Management of Sustainability) Indices to gauge its contribution to people, society and the Earth. MCHC uses these indices to evaluate progress made with regard to MOS, one of its management axes, which aims to enhance social value through improvements in sustainability. The MCHC Group has revised the MOS Indices and the ways it is using them in line with updates to its materiality assessments and the formulation of the medium-term management plan. The Group has been applying the new MOS Indices since fiscal 2016.

As an operating company, Mitsubishi Chemical also implements and evaluates management aimed at improving sustainability based on the new MOS Indices.

Index that needs to be achieved			Achieve zero occurrences of serious accidents and compliance violations
S Index	Contribute to reducing environmental impact	S-1-1	Reduce burden on the atmospheric environment
		S-1-2	Reduce burden on the water environment
		S-1-3	Reduce burden on the soil environment
	Efficient use of resources and energy	S-2-1	Promote activities to conserve energy
		S-2-2	Convert to resource-saving and reusable materials
		S-2-3	Promote use of renewable energy
	Contribute to the sustainability of the environment and resources through products and services	S-3-1	Provide products and services that contribute to reducing GHG emissions
		S-3-2	Provide products and services that help solve water resource problems
		S-3-3	Provide products and services that help solve food problems
H Index	Contribute to medical treatment	H-1-1	Pharmaceuticals provision
		H-1-2	Provide clinical testing services
	Contribute to the prevention and early detection of diseases	H-2-1	Provide vaccines
		H-2-2	Provide health management and health checkup information
	Contribute to achieving healthy and hygienic lives through products and services	H-3-1	Provide products for the health field
		H-3-2	Provide products for the sanitation field
H-3-3		Provide products for the medical field	
C Index	Endeavor to earn greater recognition of corporate trust from society	C-1-1	Improve awareness of compliance
		C-1-2	Prevent accidents and injuries
		C-1-3	Initiatives to provide products and services trusted by society
	Promote communication and work in concert with stakeholders	C-2-1	Promote communication with business partners
		C-2-2	Improve evaluation by stakeholders
		C-2-3	Build a dynamic and cooperative organization
	Contribute to achieving a more comfortable society and better lifestyle	C-3-1	Provide products and services that contribute to a comfortable society and better lifestyles



Initiatives to Help Achieve the SDGs

SDGs and Realizing KAITEKI

The Sustainable Development Goals (SDGs) are a set of development goals for international society as a whole to pursue from 2016 to 2030 that were adopted as part a resolution titled “Transforming our world: the 2030 Agenda for Sustainable Development” at the UN Sustainable Development Summit in September 2015. The SDGs comprise 17 goals and 169 targets for realizing a sustainable world. Governments and civil society, as well as the private sector, including corporations, are expected to utilize their resources and coordinate to help achieve the SDGs.

In accordance with its vision of realizing KAITEKI, the sustainable well-being of people, society and our planet Earth, the Mitsubishi Chemical Holdings (MCHC) Group adopted improving sustainability as one of its management axes in 2011. We aim to not only help solve environmental and social issues but contribute to the sustainable development of society and the planet. As such, we believe that many aspects of our vision of realizing KAITEKI parallel the SDGs.

Furthermore, MCHC has laid out how the SDGs relate to its important management issues (materiality) and MOS (Management of Sustainability) Indices—which it uses as key performance indicators to enhance sustainability—and has linked these issues and indices with SDG efforts.

Mitsubishi Chemical's Initiatives

As a member of the MCHC Group, Mitsubishi Chemical (MCC) has made realizing KAITEKI its vision and declared that it will seek to address societal issues by creating new value and providing said value to customers as solutions, thereby sustainably growing in concert with society. As a result, many of the products and services we provide contribute to the realization of the SDGs.

The MCC *Sustainability Report 2018* features the following three items, chosen as representative examples of MCC's many products and services that contribute to realizing KAITEKI and the SDGs.

**Plant-Derived,
Biodegradable Plastic BioPBS™**



SDG 12:
Ensure sustainable consumption
and production patterns

**Structural Repair and Strengthening
Carbon Fiber Fabric Replark™**



SDG 11:
Make cities inclusive, safe,
resilient and sustainable

**Decentralized Water Treatment
& Supply System**



SDG 6:
Ensure availability and sustainable
management of water and sanitation for all

Plant-Derived, Biodegradable Plastic BioPBS™



Relevant SDG

SDG 12: Ensure sustainable consumption and production patterns

Striving toward Sustainable Production

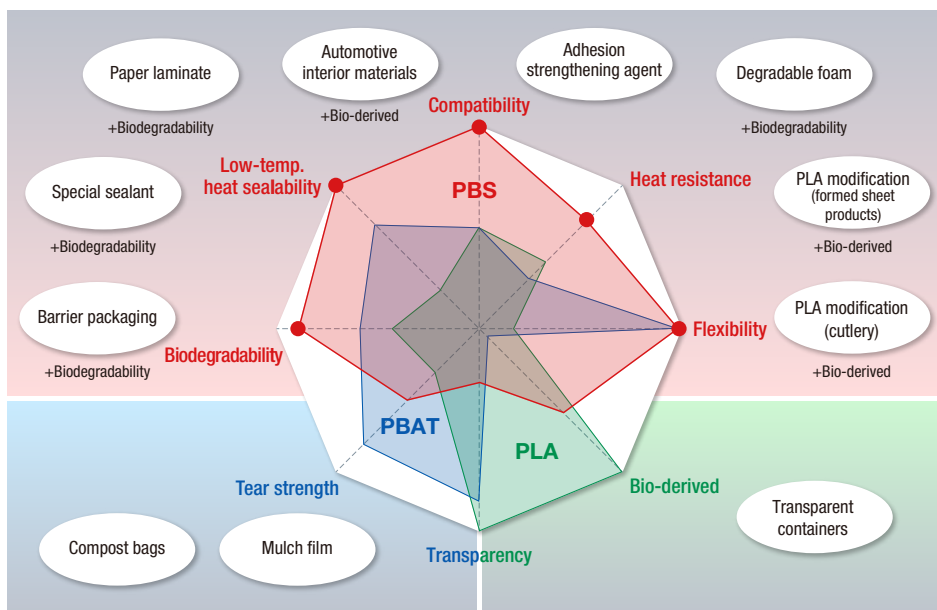
We are now facing such global-scale risks as accelerating climate change, the depletion of natural resources, disparities in water resource distribution, expanding and graying populations, and food and agricultural issues. Given this critical situation, as a chemical company, we believe it is our mission to realize, through innovation, the efficient use of natural resources and energy, the utilization of renewable resources, and the reduction of environmental burden and to thereby enhance environmental and social sustainability.

Initiatives to replace non-renewable petroleum with renewable biomass as the raw material for plastic production are helping to more efficiently use resources and greatly contribute to ensuring sustainable production, part of one of the SDGs. At the same time, making plastics biodegradable while retaining their useful properties makes it easier for them to break down in the environment, helping to reduce environmental burden. With BioPBS™, a renewably sourced and biodegradable product, Mitsubishi Chemical (MCC) has developed a plastic that offers both of these unrelated attributes.

Features of BioPBS™

Polybutylene succinate (PBS) is an aliphatic polyester resin made from succinic acid and 1,4-butanediol, two raw ingredients typically manufactured from petroleum. In contrast, BioPBS™ is made with succinic acid derived from plant materials, a renewable resource. Its excellent biodegradability at low temperatures—ultimately breaking down into water and CO₂—sets it apart from other biodegradable plastics like polylactic acid (PLA) and polybutylene adipate terephthalate (PBAT). BioPBS™ also boasts such outstanding qualities as low-temperature heat sealability, compatibility with other materials, heat resistance and flexibility. Moreover, many properties that BioPBS™ does not have by itself can be achieved when it is used in composites with other resins and materials.

Characteristics of PBS



Plant-Derived, Biodegradable Plastic BioPBS™

Applications of BioPBS™

BioPBS™ is manufactured and sold by PTT MCC Biochem Co., Ltd., a joint venture of PTT Global Chemical Public Company Limited (previously Petroleum Authority of Thailand) and MCC. Furthermore, MCC is advancing the development, manufacture and sale of compounds that impart new functions to BioPBS™, leveraging its excellent compatibility with other materials and biodegradability. BioPBS™ is currently being used in applications including the two below.

Agricultural Mulch Film

Agricultural mulch film is used to cover the rows of soil in which agriculture products grow, helping prevent insect and weed infestation, stabilize ground temperature, maintain soil moisture and prevent fertilizer runoff. Because of the wide range of useful effects they offer, such films are in widespread use. However, after crops are harvested, ordinary mulch films must be collected from the fields and disposed of as waste plastic or incinerated. The biodegradability of BioPBS™ is thus of great use in this application. Agricultural mulch film made with BioPBS™ need not be collected after the harvest, and can instead simply be plowed into the soil, where it naturally breaks down. This helps achieve sustainable production, part of one of the SDGs, while contributing greatly to labor saving in agriculture.



Use in agricultural mulch films

Coffee Capsules

Capsule coffee makers have rapidly grown in popularity in recent years. These machines heat water at high pressure then force it through the ground coffee beans, which are kept fresh inside a capsule, to brew coffee. For this to work, the capsules need to have a number of attributes, including heat resistance, impact resistance and sealability to preserve flavor. Because it meets these needs, BioPBS™ is used as a material for coffee capsules.



Use in a coffee capsule

The heat and impact resistance of BioPBS™ composites are useful in this application, but the biodegradability of BioPBS™ plays a major role as well. Because used coffee capsules contain wet coffee grounds, they are difficult to recycle as plastic. However, if they are made with biodegradable BioPBS™ composite, used capsules can be composted, a method of disposal with minimal environmental impact. By providing such products, we aim to enrich lifestyles while contributing to sustainable production, part of one of the SDGs.

Working toward the SDGs

MCC continues to advance R&D aimed at eventually producing the raw ingredients for PBS, including 1,4-butanediol, entirely from plants. We also aim for even higher biodegradability to better realize sustainable consumption and production patterns, one of the SDGs. MCC is putting its full strength—including advancing R&D, establishing production technologies, ensuring quality that meets demands, developing markets, and developing global business—into realizing these goals.

Structural Repair and Strengthening Carbon Fiber Fabric Replark™



Relevant SDG
SDG 11: Make cities inclusive, safe, resilient and sustainable

Targeting Sustainable Infrastructure

Recent years have seen numerous heavy rains, earthquakes, volcanic eruptions, tsunamis, droughts and other natural disasters around the world. Typhoons, heavy rains, and the subsequent flooding are becoming more frequent and more severe, and damage from earthquakes is unending. In addition to the harm they inflict in terms of human life, the economic toll of such disasters is a major barrier to the realization of a sustainable society. Natural disasters significantly impact highly developed countries and, in countries where infrastructure is underdeveloped, can wreak even greater harm.

As bridges, expressways, tunnels and other such infrastructure components age, their safety becomes harder to ensure; incidents involving collapsing or failing infrastructure in and outside Japan have been occurring one after another. Furthermore, the decreased utility of aging structures and the expense of repairing and strengthening them are major social issues.

The Mitsubishi Chemical (MCC) Group provides a range of products and services that aid in addressing the critical state of infrastructure and contribute greatly to the realization of the SDG “Make cities inclusive, safe, resilient and sustainable.” One such product is the structural repair and reinforcement carbon fiber fabric Replark™ offered by Mitsubishi Chemical Infratec Co., Ltd.

Features of Replark™

Carbon fiber boasts many advantageous features: It has a specific gravity just 1/4 that of iron, yet approximately 10 times the strength of steel, and it is highly chemically stable, making it resistant to salt damage. Replark™ is a repair and reinforcement material for steel and concrete structures made of unidirectional carbon fiber. This product offers all the advantages of carbon fiber in an easy-to-work-with sheet form. The grade of Replark™ made with PAN-based carbon fibers can be used to enhance the tensile strength of such structures as bridge columns, while the high-elastic-modulus grade made with pitch-based carbon fibers can greatly reduce the stress on rebar. In addition to Replark™ fabric, we offer a range of formed carbon-fiber reinforcement materials, such as e-plate (strips) or Leadline™ (rods), to meet the needs of various applications.



Replark™



e-plate



Leadline™

Structural Repair and Strengthening Carbon Fiber Fabric Replark™

Applications of Replark™

Replark™ provides the following functions when used with existing structures.

- It reinforces bridge beams against bending and enhances the fatigue durability of bridge deck slabs.
- It improves the seismic resistance of bridge columns and other structures by absorbing energy from earthquakes.
- It prevents material stripping from tunnel interior walls and chimneys.

In addition to offering the lightness, strength and elasticity of carbon fiber, Replark™ is simple to install; fabric impregnated with epoxy resin need only be applied to the structure surface. As such, it offers the following advantages for repairing and strengthening structures.

- Because it is lightweight and simple to install, carrying and handling the necessary materials at the worksite is easy.
- It enables repairs in tight spaces where maneuvering and installing steel components is difficult.
- It adds almost no weight to the structure being repaired or strengthened, helping reduce the load on the existing structure.

The development of Replark™ goes back to the 1980s. Recognition of the need for such a product and its usefulness has gradually increased, and today it is starting to be used not only in Japan, but also in Southeast Asia and Europe.

Installation on Genta Bridge

Genta Bridge, located in Tottori City, Tottori, has stood for more than 60 years. While in relatively good repair, the bridge was narrow, making passage difficult for large vehicles, and its load capacity was no longer sufficient due to the increasing size of vehicles on the road.

To address these issues, Tottori Prefecture sought to broaden and strengthen the bridge, but doing so by conventional methods would significantly increase the bridge's weight, requiring large-scale construction. Instead, the bridge's reinforced concrete suspended girders were replaced with steel; external cables and Replark™ carbon fiber fabric were used for strengthening; and Leadline™ carbon fiber rods were used to strengthen the deck slabs. As a result, the overall cost was approximately halved from what it would have been using conventional construction methods. In recognition of these achievements, the bridge received the Japan Society of Civil Engineers 2014 Tanaka award.



Genta Bridge under construction

Working toward the SDGs

As expressed by the SDG “Make cities inclusive, safe, resilient and sustainable,” building safe, reliable infrastructure is among the most important tasks we face. However, securing the funding and manpower needed to renovate infrastructure remains difficult. The MCC Group strives to find solutions to these two difficult and conflicting issues through innovation and global business development.

Decentralized Water Treatment & Supply System

6 CLEAN WATER AND SANITATION



Relevant SDG

SDG 6: Ensure availability and sustainable management of water and sanitation for all

Safe Water for the World

While approximately 70% of the Earth's surface is ocean, fresh water accounts for just 2.5% of all water on the planet. Most of this fresh water is in glaciers and ice sheets, groundwater, or otherwise difficult to access; readily available surface water¹ in such forms as lakes and streams is estimated to make up just 0.01% of all water on Earth.

Furthermore, this readily usable water is unevenly distributed. According to the United Nations Development Programme (UNDP) *Human Development Report 2006*, more than 1.1 billion people worldwide have inadequate access to clean, safe water. Achieving the SDG "Ensure availability and sustainable management of water and sanitation for all" will bring immeasurable benefits to people and society, saving lives by improving public sanitation, thereby helping prevent the spread of infectious disease and reducing infant mortality, while also reducing the gap between rich and poor, creating educational opportunities and contributing to regional economic development.

Moreover, given the frequency of major natural disasters around the world, securing water supply lifelines in times of disaster is a major issue facing developed countries, as well.

Wellthy Corporation has been working to solve these problems for more than 20 years. Focusing on groundwater, which accounts for 0.76% of the planet's water, Wellthy strives to contribute to the supply of safe water using the decentralized water treatment & supply systems it has developed. These systems are currently supplying water—an essential for daily life—both in Japan and overseas.

¹ Surface water: Water that originates mainly from precipitation and is present entirely above ground in such bodies as streams and lakes.

What is a Decentralized Water Treatment & Supply System?

Capable of processing water from a wide range of sources, Wellthy's decentralized water treatment & supply systems employ the company's accumulated membrane filtration technologies. Wellthy handles everything from development and manufacture to the management and maintenance of these systems. Wellthy systems are mainly used with groundwater in Japan and with surface water overseas. Their compatibility with diverse water sources gives the systems a major advantage. In addition, these systems offer the following advantages.

- The system can be installed on an area the size of a few parking spaces and requires less investment than a large-scale centralized water purification plant.
- Customers can select the optimal system configuration for the type and characteristics of their water source and the usages and required supply capacity of treated water.
- A remote monitoring system ensures a safe and stable water supply.
- The system can reduce water supply costs.



Decentralized water treatment & supply system

Decentralized Water Treatment & Supply System

Furthermore, because these water supply systems are decentralized and enable local production for local consumption, they also offer the following merits.

- Construction does not take long, so the lead time from the start of installation to the start of water supply is short.
- Maintenance requires little cost or labor.
- The training necessary for upkeep and management is simple.
- As a secondary water supply in addition to public water supply, the system can provide a water supply lifeline that is resilient to disasters.
- The system can fill gaps in public water supply systems in rural or remote areas of developing countries.

Applications of the Decentralized Water Treatment & Supply System

Wellthy's decentralized water treatment & supply system business is aimed at realizing safe, stable water supply for everyday use, helping secure an uninterrupted water supply at times of natural disaster, and supporting the business continuity of its customers.

■ Clean Water and Agriculture Promotion Project in Kenya

Wellthy is working with the United Nations Development Programme (UNDP) on a project to supply clean water to a community of approximately 40 households in Machakos County, Kenya.

Because there is no electricity supply in the community, we installed a slow sand filtration system (a filtration system that uses gravity) that requires no power and only simple maintenance. This system purifies water taken from a nearby canal for use by the local residents. At the same time, we have developed a clean water business model whereby local residents can sell purified water to their neighbors to secure a cash income.

In addition to supplying clean water, we are focusing efforts on promoting local agriculture. By installing facilities for drip irrigation (in which water is supplied in small amounts only where needed) and reusing activated carbon previously employed in water filtration as a soil conditioner, the project is improving water use efficiency and reducing waste. With an eye to promoting traditional leafy vegetables that offer high added value but are not currently grown in the area as possible cash crops, we aim to help expand the cultivation of cash crops rooted in the area and thereby increase incomes in the community as a whole.

These efforts are helping local residents achieve economic independence and creating educational opportunities. Furthermore, through such knock-on effects as the health benefits to local residents of eating highly nutritious traditional vegetables, we are contributing to the world via the supply of water.



Clean water project in Kenya

Groundwater Membrane Filtration System

Our groundwater membrane filtration system is a decentralized water supply system that uses the sophisticated membrane filtration treatment that Wellthy has developed to process groundwater into safe, reliable drinking water. Used as a secondary water source alongside a public water utility, this system can provide a water supply lifeline during times of disaster. The system offers the following merits.

- The system facilitates operational continuity in times of disaster, most notably at medical institutions and nursing care facilities, where water supply is essential, as well as at retail facilities, hotels, schools and other important public facilities, and at factories.
- The system enables social contribution by enabling the user to supply neighboring residents with water when public water supply is cut off, such as at times of disaster.
- Using groundwater in the course of regular operations can help reduce water utility costs.
- By using groundwater, which has a stable temperature year-round, the system can increase cooling tower efficiency in the summer and fuel efficiency for hot water supply in the winter, reducing both cost and environmental burden.

In areas where public water supply was cut off after the Kumamoto Earthquake and Northern Osaka Prefecture Earthquake, these systems continued to operate. As a result, hospitals that had groundwater membrane filtration systems had no interruption in water supply and were able to continue operating. We also heard from many customers that they were able to contribute socially by providing water to nearby residents.

Working toward the SDGs

Safe water is a limited resource; even those of us who enjoy its benefits every day are reminded how precious it is when a natural disaster strikes. As such, although achieving the SDG “Ensure availability and sustainable management of water and sanitation for all” will be extremely difficult, its realization will help not only ensure safety and peace of mind in everyday living for people around the world, but contribute greatly to the sustainable development of people and society.

We at the MCC Group will persistently work toward the achievement of this challenging task through innovation and global business development.



Basic Policy

As a member of the Mitsubishi Chemical Holdings (MCHC) Group, the Mitsubishi Chemical (MCC) Group abides by MCHC's basic Group management guidelines and shares specific Group management policies and strategy determined by MCHC. The MCC Group also adheres to MCHC Group policies and rules to ensure that it fulfills its corporate social responsibility in areas such as internal controls, risk management and compliance and actively implements management initiatives to enhance corporate value as a core operating company of the MCHC Group.

Basic Regulations

The Mitsubishi Chemical Group strives to ensure compliance based on the Mitsubishi Chemical Holdings Group Charter of Corporate Behavior, a common set of compliance regulations shared throughout the Group.

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.

Basic Regulations

■ 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

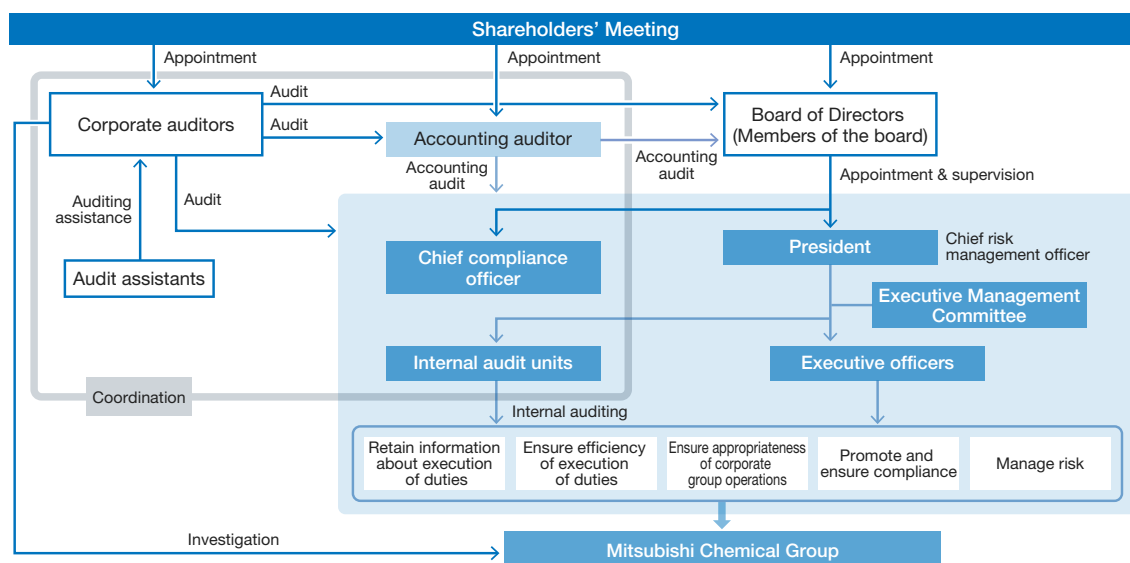
Mitsubishi Chemical Holdings Group managers shall recognize their responsibility to embody the spirit of this charter and shall ensure that employees are fully aware of its content. We shall expect our suppliers and other business partners to share all the standards set out in this charter, including but not limited to standards relating to human rights, employment, and labor.

Corporate Governance

The top priorities for corporate governance of the Mitsubishi Chemical (MCC) Group are to ensure fast and efficient decision making and business execution, clarify management responsibilities, ensure compliance and strengthen risk management.

The MCC Group's basic corporate governance structure is illustrated below. The company has adopted an executive officer system to separate management and executive functions. Furthermore, MCC has defined the extent of the authority of such decision-making bodies as the Board of Directors and various management positions in its internal rules. Through these and other measures, MCC ensures proper, efficient managerial decision making and business execution.

Corporate Governance Structure of the Mitsubishi Chemical Group (as of June 26, 2018)



Board of Directors

The Board of Directors meets once a month in principle. In accordance with the regulations of the Board of Directors and other relevant rules, the board makes decisions on important managerial matters and basic matters concerning Group management and provides oversight of the execution of duties by directors. The six directors (four of whom concurrently serve as executive officers) form a management structure capable of quickly adapting to environmental changes. To further clarify the managerial responsibilities and role of each director, the term of office for a director is one year. Human resources judged to possess the necessary skills and qualities to realize the Group's corporate philosophy and fulfill its social responsibilities are selected as candidates for director by the Board of Directors. Candidates are then proposed at the Shareholders' Meeting, where they may be elected by a resolution of shareholders.

Executive Management Committee

The Executive Management Committee is an advisory body that assists the President in making decisions, deliberating important matters concerning business execution, such as the investment and financing activities of MCC and the MCC Group. Particularly important managerial matters deliberated by the Executive Management Committee are acted on only upon the resolution of the Board of Directors. The Executive Management Committee meets twice a month in principle. The committee comprises the President, the chief operating officers of the business domains, the supervising officers of the corporate function domains, the presidents of the regional headquarters and the general manager of the Corporate Planning Department. The directors of the board and corporate auditors may also attend its meetings as needed.

Corporate Governance

Corporate Auditors

MCC has corporate auditors to audit its activities. The corporate auditors attend Board of Directors, various committee and other important meetings, verify the contents of reports submitted by directors of the board and other relevant parties, investigate the status of the company's business and property, and audit the execution of duties by directors of the board. MCC does not have a Board of Corporate Auditors, but voluntarily maintains a Corporate Auditors Liaison Committee to facilitate coordination and cooperation among the corporate auditors. The Corporate Auditors Liaison Committee meets once a month in principle. At meetings, the corporate auditors discuss audit plans and other important audit-related matters. As of the end of June 2018, MCC has five corporate auditors. Corporate auditors, the accounting auditor and the Internal Audit Department work in close coordination, exchanging opinions on their respective audit processes and results.

Committees

The company maintains a number of committees, including the Compliance Promotion Committee, Risk Management Committee, Information Security Committee, Environmental and Safety Promotion Committee, and Human Rights and Diversity Promotion Committee. These committees refer or report important matters to the Board of Directors or the Executive Management Committee.

Internal Controls

Basic Policy

Based on the Basic Internal Control System Maintenance Policy established by the Board of Directors, Mitsubishi Chemical (MCC) maintains an internal control system that encompasses MCC Group systems related to enforcing compliance, risk management, ensuring efficacy and efficiency, and information archiving. By doing so, MCC strives to ensure appropriate operations and enhance corporate value. The Board of Directors receives reports on and verifies the maintenance and operational status of the internal control system once a year, and MCC works to strengthen and improve the system as needed.

Improving Our Internal Control Systems

Based on the Mitsubishi Chemical Group Regulations on Promoting the Improvement of the Internal Control System, established July 1, 2017, MCC is reinforcing governance, ensuring proper operations, and establishing and improving related processes and operations to enhance the efficacy and efficiency of such initiatives. Together, these efforts constitute the foundation of internal control at MCC Group companies.

In fiscal 2017, MCC supported the reinforcement of governance and the control of operational processes at Group companies, mainly in Asia, Europe and Japan.

Compliance

The Mitsubishi Chemical (MCC) Group regards compliance as a top priority in its corporate activities. The MCC Group has in place a Compliance Promotion Program that comprises basic regulations concerning compliance, a structure for compliance promotion, education and training programs, auditing and monitoring systems, and a consultation and reporting hotline. Based on this program, the MCC Group works to ensure appropriate and precise operations and management.

Compliance Promotion Structure and the CCO

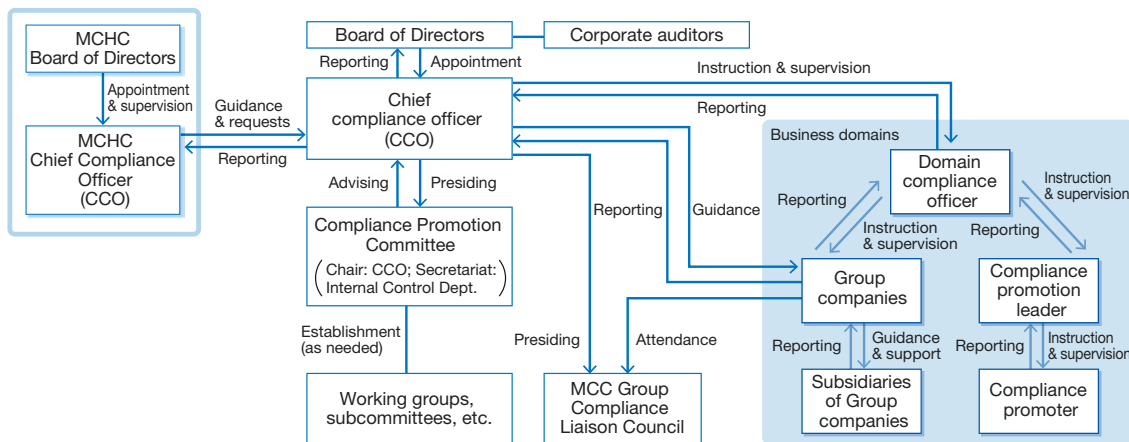
The Board of Directors appoints the Mitsubishi Chemical Group's chief compliance officer (CCO).

The CCO has the authority to direct and supervise the MCC business domains and Group companies in matters related to compliance. The CCO also chairs the Compliance Promotion Committee and reports to the Board of Directors and CCO of Mitsubishi Chemical Holdings (MCHC) on the status of compliance and important issues.

The Compliance Promotion Committee deliberates on such matters as basic policy concerning the development and operation of the MCC Group's Compliance Promotion Program, the performance of the program and responses to compliance violations. The committee also makes proposals to the CCO as necessary.

Furthermore, our designated domain compliance officers, compliance promotion leaders and compliance promoters in each domain coordinate to promote compliance in the course of daily operations.

Compliance Promotion Structure of the Mitsubishi Chemical Group



Compliance Regulations

The MCC Group maintains and operates according to internal compliance-related regulations, including regulations concerning the compliance promotion structure, hotlines and responses to compliance violations.

Educational, Training, and Awareness-Raising Activities

MCC conducts a variety of educational, training and awareness-raising activities in Japan and overseas on an ongoing basis in order to further instill compliance awareness.

In fiscal 2017, in Japan, we implemented a total of 46 hours of group training for compliance promotion leaders and compliance promoters, including those at Group companies. This training was implemented in 23 sessions at 16 locations for 879 employees. In addition to lectures, such training incorporates role-playing using highly realistic case studies prepared in-house in order to help participants gain a first-hand understanding of the importance of compliance and the difficulty of making decisions when confronted with such situations. We also provide e-learning for all members of the Group, seeking to enhance each and every employee's compliance awareness. Furthermore, we are increasing awareness and knowledge of such important compliance risks as those related to bribery, the Anti-Monopoly Act and information security through such means as holding risk confirmation interviews with sales employees and targeted email attack response drills.

Overseas, in the Americas, Europe and China, such activities are entrusted to MCC's regional headquarters,¹ which carry out training and awareness-raising tailored to the circumstances of each region. We are also bolstering initiatives in other regions (Taiwan, Singapore, Thailand, Indonesia, India and South Korea) through such means as local training and e-learning. In fiscal 2017, we implemented training on compliance promotion in Asia for 75 presidents of Group companies in Taiwan, Singapore, Thailand, Indonesia and China.

¹ Regional headquarters: The following four companies were established to accelerate Mitsubishi Chemical's overseas business development by supporting business and revenue growth in their respective regions.

- Mitsubishi Chemical America, Inc.
- Mitsubishi Chemical Europe GmbH
- Mitsubishi Chemical (China) Co., Ltd.
- Mitsubishi Chemical Asia Pacific Pte Ltd.

Compliance

Fair Business Practices

■ Mitsubishi Chemical Holdings Group Global Anti-Bribery Policy

MCHC has established the Mitsubishi Chemical Holdings Group Global Anti-Bribery Policy, aiming to prevent bribery on the part of its operating companies and executives and thus ensure compliance with anti-bribery laws and regulations in all the countries where it operates, prevent corruption, and help establish and maintain fair business practices.

The policy prohibits bribes to public officials and includes provisions concerning accounting records, compliance structures and penalties for violations.

Monitoring and Reporting Systems

■ Compliance Hotline

The MCC Group has established a hotline through which employees can contact the Internal Control Department, an external lawyer or a hotline service company to seek advice or report possible compliance violations. The Group strives to ensure that the hotline is operated properly and employees are aware of it.

■ Global Compliance Perception Surveys

The MCC Group uses employee perception surveys to monitor the degree of compliance awareness among employees. In fiscal 2017, these surveys were returned by 33,041 employees of domestic Group companies (or 94.2% of such employees) and 3,765 employees of Group companies in Asia (or 96.2% of such employees). Survey results are analyzed in detail and used to provide feedback to related officers. Challenges and problems identified as a result of said analysis are reflected in compliance-related measures and training.

■ Response to Compliance Violations

In the event of a compliance violation, the domain compliance officer and the departments overseeing compliance work together to make an appropriate initial response that rectifies or otherwise deals with the situation. They then investigate the cause of the violation and implement recurrence countermeasures. 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.

Risk Management

The Mitsubishi Chemical (MCC) Group has established basic regulations for risk management and implements risk management activities related to the execution of its businesses and operations. Specifically, the Group's policy is to accurately identify and evaluate risks that could significantly impact the Group, deal with such risks appropriately, and minimize the impact of such risks on its businesses and society, including the Group's stakeholders.

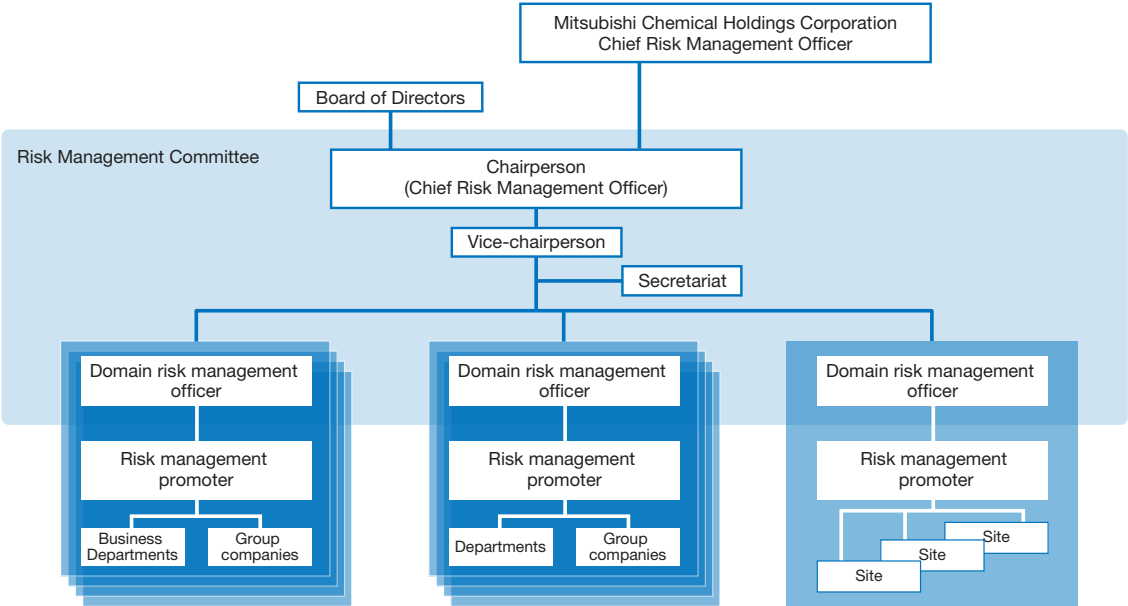
Risk Management Structure

MCC has set up a Group-wide risk management system headed by its President, who serves as the Group's Chief Risk Management Officer, and strives to ensure that this system operates appropriately and smoothly.

The supervising officers of the business domains and corporate function domains serve as domain risk management officers charged with maintaining, operating, directing and overseeing the risk management systems within their respective units, including those of MCC Group companies. Meanwhile, the Risk Management Committee, established to support the Chief Risk Management Officer as a supplementary decision-making organ, regularly confirms the operational status of the MCC Group's risk management system and deliberates on important matters related to the development and operation of said system, basic policy and plans regarding risk management activities, and management objectives and countermeasures related to serious risks.

The Risk Management Committee regularly reports to the MCC Board of Directors and the Mitsubishi Chemical Holdings Corporation Chief Risk Management Officer regarding the operational status of the risk management system.

Risk Management Structure of the Mitsubishi Chemical Group



Risk Management

Initiatives

In fiscal 2017, in addition to the risks individually identified and addressed by each department, management designated that the risks listed below be dealt with on a company-wide basis. Approximately 6,800 specific risks were identified across the Group. We prioritize these risks based on severity and likelihood of actualization and are formulating and implementing measures to reduce said risks.

- (1) Process safety and stable operations
- (2) Compliance promotion
- (3) Governance and global management
- (4) Crisis management and business continuity
- (5) Information security
- (6) Management of working hours
- (7) Climate change issues

Business Continuity Plans

MCC formulates business continuity plans (BCPs) to minimize the impact suffered by its customers and business partners in the unlikely event of a natural disaster or a major accident.

Specifically, when responding to such crises as a major earthquake in the Nankai Trough or a pandemic, MCC gives greatest priority to assuring the safety of human life, including the lives of employees, their families, business partners and local residents. We have also prepared manuals that lay out steps to be taken after such safety is assured, namely, how to maintain or quickly resume the supply of key products essential to society and thus fulfill our product supply obligations to our customers. In addition, we are making arrangements to ensure that operations important to the whole Group can be continued elsewhere should the head office be incapacitated by a major earthquake striking the Tokyo metropolitan area.

Intellectual Property Strategy

Basic Policy

With socioeconomic globalization advancing and markets growing larger and more complex, the Mitsubishi Chemical Holdings (MCHC) Group believes that it is essential to expand and strategically utilize the value of its patents, expertise, trademarks and other accumulated intellectual capital in order to realize synergies between its operating companies and achieve further growth.

In line with this conviction, Mitsubishi Chemical (MCC) formulates and executes its intellectual property strategy with a focus on the type of intellectual property environment it seeks to create and the nature of the technologies and other intellectual property that each of its businesses generates and utilizes. Alongside these efforts, MCC works to reinforce the legal protections and improve the effectiveness of its intellectual property. Accordingly, the company endeavors to respect the valid intellectual property rights of other parties and takes appropriate measures when its own intellectual property rights are infringed upon.

Furthermore, aiming to expand the operating revenue of the MCHC Group as a whole, we actively promote coordination between operating companies in the area of intellectual property. By sharing intellectual property, we aim to enhance the MCHC Group's overall competitiveness and R&D productivity. At the same time, we work with third parties to employ the intellectual property of the operating companies in mutually complementary ways. By doing so, the entire MCHC Group works as one to maintain the value of its intellectual property and exercise and protect its rights.

Intellectual Property Training

We implement intellectual property training aimed at developing united strategic intellectual property activities across MCC's business departments, R&D departments and Intellectual Property Department. Through a rank-specific program covering everyone from new recruits to the leadership class, we strive to implement practical education for business and R&D departments that goes beyond just legal knowledge.

Intellectual Property Strategy

Human Resource Development of Intellectual Property Department Staff

MCC believes that its Intellectual Property Department should be staffed by human resources who can leverage their intellectual property expertise and advance intellectual property activities that contribute to operating revenue alongside business and R&D departments. Accordingly, we are developing such human resources, using targeted programs to foster practical work execution, planning/strategy and organizational management abilities.

In addition, we are working to develop globally oriented human resources through such means as an overseas training system.

Code of Research Conduct

MCC has established the Code of Research Conduct to ensure that its researchers' conduct, in all R&D activities, is always exemplary.

To ensure that research is carried out responsibly, the Code of Research Conduct includes provisions regarding the proposal of research topics and execution of related research, data management, the presentation of results, communication between researchers and procedures for addressing compliance problems.

MCC utilizes a variety of opportunities to implement and reinforce education related to the Mitsubishi Chemical Holdings Group Charter of Corporate Behavior, the MCHC Group's basic regulations concerning compliance, and the Code of Research Conduct to ensure that researchers act with an awareness of such rules as they carry out their duties.

Reflecting these efforts, MCC's researchers bring a strong sense of ethics, sincerity and humility to their R&D work, seeking to live up to the trust and expectations of society by respecting both our own intellectual property and that of other parties while contributing to the growth and development of the MCHC Group as a whole on an ongoing basis.

Information Security

Basic Policy

The Mitsubishi Chemical (MCC) Group undertakes information management in line with the Mitsubishi Chemical Group Information Security Policy. Under this policy, the MCC Group strives to protect its information assets and, in the event of an information security incident, acts to minimize the impact on its businesses and quickly resume any interrupted operations. Furthermore, the MCC Group works to raise employee awareness of the importance of protecting information assets while striving to maintain and improve the efficacy of its information security as part of efforts to prevent business interruptions and the loss of society's trust due to such problems as information leaks or falsification.

Main Activities

The MCC Group maintains, manages and works to enhance all aspects of information security, including documents and data, information systems, and plant controls, on a Group-wide basis under the leadership of the Information Security Committee, established per the Mitsubishi Chemical Group Information Security Policy.

In addition, to counter increasingly sophisticated cyber attacks, the Mitsubishi Chemical Holdings Group Information System Security Subcommittee enforces a PDCA cycle for the entire Mitsubishi Chemical Holdings Group, working to maintain and strengthen information security.

Defensive Measures Against Threats to Computer Networks

The MCC Group has both technological and management measures in place to ensure network security. Technological measures include entrance safeguards, such as e-mail filters, as well as exit safeguards, such as systems that block access from within the network to websites that present security risks. 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 its own Rules on Handling Personal Information and strives to ensure strict compliance with the Act on Protection of Personal Information, the Act on the Use of Numbers to Identify a Specific Individual in Administrative Procedures and other relevant laws, regulations and guidelines as well as the E.U. General Data Protection Regulation (GDPR) promulgated in May 2018.

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

Internal Education and Training

The MCC Group regularly conducts awareness-raising and training events for employees to promote strict information management. Moreover, information security training via e-learning is implemented every year, and information security training education is built into the employee training curriculum.

Security Export Control

Basic Policy

The international security environment is changing rapidly, the threat of weapons of mass destruction growing, and the dangers of terrorism ongoing. Amid these circumstances, security export control initiatives are growing more important than ever.

Mitsubishi Chemical (MCC) produces and possesses numerous products and technologies that can be used for both civilian and military applications (“dual-use” goods), such as carbon fiber. Appropriate security export control compliant with the Foreign Exchange and Foreign Trade Law and other relevant laws is necessary to prevent MCC’s broad-ranging products and technologies from reaching countries under export bans, countries of concern, terrorist organizations or other improper destinations or recipients. Accordingly, we have designated officers responsible for security export control and established a security export control system that we continually enhance.

Security Export Control System

MCC has established an export control system based on its Security Export Control Rules. The chief executive of this system is MCC’s president and chief executive officer, under whom are the supervisor of security export control, the Export Control Department and the chief export control officers of exporting departments. Through this system, we work to prevent legal violations, including improper exports, whenever possible, using such means as strict, thorough export screening, the notification of information about legal changes, raising internal awareness about security export control and internal audits of exporting departments.

Export Control Mechanisms

Security control comprises three steps: Item classification, customer screening and transaction verification. Each step is uniformly managed using a dedicated system so that the results can be used as part of an activity trail if needed.

Item classification is the process of determining whether the product or technology being exported or supplied is subject to legal restrictions (namely, listed as a restricted item). We implement a double-check process wherein, based on the latest restricted item lists, the exporting departments perform the initial check and the Export Control Department grants final approval.

Customer screening entails using the export control system, which contains the latest risk information to screen customers, including both customers in Japan who indirectly export and end-users at the item’s final destination. This screening system is highly effective in preventing the circumvention of regulations through third-country exports. As with item classifications, a double-check process is applied to customer screenings.

For transaction verification, the exporting departments fill out a transaction verification form using the results of the item classification and customer screening. Based on this form, the export control system then automatically assesses the riskiness of the transaction and determines who will be responsible for granting final approval. The Export Control Department grants final approval for items listed as restricted that are considered high-risk, such as carbon fiber.

Training and Education

In fiscal 2017, to spread awareness of the new export management system, MCC held more than 50 explanatory meetings (for approximately 1,200 attendees) targeting business domains, corporate function domains, plants, and our R&D center. We also invited an external instructor to hold an explanatory meeting for the members of the Executive Management Committee to deepen their understanding of the importance of compliance with the Foreign Exchange and Foreign Trade Law and other relevant laws.

Going forward, we will carry out training and education that covers the basics of legal compliance while finding new ways to increase its effectiveness, such as introducing topics related to the real-life practice of compliance.

Internal Audits

The Internal Audit Department, which is independent of business and administrative operations, conducts internal audits to assess the effectiveness of internal controls at Mitsubishi Chemical Corporation and its Group companies, monitoring such factors as the adequacy and the efficiency of each organization's governance, risk management and operating processes. The Internal Audit Department contributes to the improvement of the internal controls in close collaboration with the relevant organizations.



Basic Policy

Mitsubishi Chemical carries out Responsible Care (RC) activities,¹ which are self-initiated activities in the chemical industry for ensuring environmental conservation, health and safety. In line with the Mitsubishi Chemical Holdings Group Charter of Corporate Behavior and with the aim of realizing KAITEKI, we implement RC activities based on the five pillars of process safety and disaster prevention, occupational safety and health, environmental conservation, chemical and product safety, and logistics safety.

¹ Responsible care activities: Voluntary activities undertaken by companies that handle chemical substances to protect the environment, health and safety across all related processes, from the development of such substances to their manufacturing, distribution, use, final consumption and disposal. These activities also encompass the publishing of the results of such efforts and dialogue and communication with society.

Implementation Framework

Mitsubishi Chemical (MCC) has designated departments responsible for promoting each of the five pillars of its Responsible Care (RC) activities. These departments work together to carry out RC activities. The designated departments draft annual RC action plans that are then deliberated by the Environmental and Safety Promotion Committee, comprising the director in charge of RC, representatives of the business domains and plant general managers, before being discussed by the Executive Management Committee and then going to the President for final approval. The director quickly informs employees of the approved plans and orders the creation of action plans for plants and business domains based on said plans. The departments responsible for implementing RC activities monitor the action plans of the plants and business domains and their implementation status and provide support and instruction aimed at improvement, thereby helping to improve the RC activities of the MCC Group as a whole.

RC activity pillar	Implementation departments
Process safety and disaster prevention	Environment & Safety Dept.
Occupational safety and health	
Environmental conservation	
Chemical and product safety	Chemicals Management Dept., Quality Assurance Dept.
Logistics safety	Logistics Dept.

Environment and Safety

Basic Policy

Mitsubishi Chemical (MCC) has established the Environment and Safety Principles as well as Policies Related to Environment and Safety, and it implements activities related to process safety and disaster prevention, occupational safety and health, and environmental conservation.

Environment and Safety Principles

1. Safety lies at the foundation of the company's very existence, and ensuring safety is the company's social responsibility.
2. The company has an obligation to conserve and improve the environment and become an entity that is friendly to both people and the planet.

Policies Related to Environment and Safety

1. We will comply with social rules and standards, including corporate ethics in addition to applicable laws.
2. We will pursue zero accidents and zero occupational injuries.
3. We will reduce our environmental impact to prevent global warming and protect the natural environment.
4. We will educate our employees about the environment and safety so that they can act with awareness of their own responsibilities.
5. We will communicate closely with society to enhance understanding and trust.
6. We will continue making improvements by utilizing the latest technologies and available internal and external information.

Based on the above environment and safety principles and policies, every year, MCC creates a Group environment and safety action plan. The plan reflects the results of the previous year's plan and audits and lays out yearly targets, policies and key measures.

The fiscal 2017 plan included the annual targets of zero serious process safety incidents, zero serious occupational accidents, zero environmental incidents and contribution to the global environment. The annual policy under the plan was to effectively understand workplace weaknesses and steadily make improvements. In line with this plan and the status of each workplace, we carried out environment and safety activities.

Audits of Environment and Safety Activities

MCC conducts safety audits and environmental audits covering 16 plants, one R&D center and 88 domestic and overseas Group company sites.

In fiscal 2017, MCC conducted safety audits of 15 plants and 20 Group company sites as well as environmental audits of nine plants and one Group company site. Through the audits, MCC checked and evaluated the workplaces' PDCA cycles based on audit subjects designated in the fiscal 2017 audit plan and provided guidance related to needed improvements.

MCC checks to confirm that audited plants and Group companies are working to make necessary improvements by, for example, improving their facilities or reviewing their standards in response to guidance provided as a result of such audits.

	FY2017 audits performed	Total issues identified	FY2017 audit plan audit subjects
Safety audits by MCC	<ul style="list-style-type: none"> • MCC: 15 plants • Group companies: 20 sites 	165	<ul style="list-style-type: none"> • Implementation of action plans • Implementation of measures to prevent occupational accidents, other incidents and their recurrence • Compliance with safety laws
Environmental audits by MCC	<ul style="list-style-type: none"> • MCC: 9 plants • Group companies: 1 site 	45	<ul style="list-style-type: none"> • Compliance with environmental laws • PDCA cycles for environmental conservation activities

Process Safety and Disaster Prevention, Occupational Safety

Basic Policy

Mitsubishi Chemical (MCC) creates action plans comprising annual targets, annual policies, and key measures reflecting the status of activities and results of the previous fiscal year and uses said plans to carry out process safety and disaster prevention and occupational safety activities. In fiscal 2017, we implemented activities in line with the annual goals of zero serious process safety incidents and zero serious occupational accidents as well as the annual policy of effectively understanding workplace weaknesses and steadily making improvements.

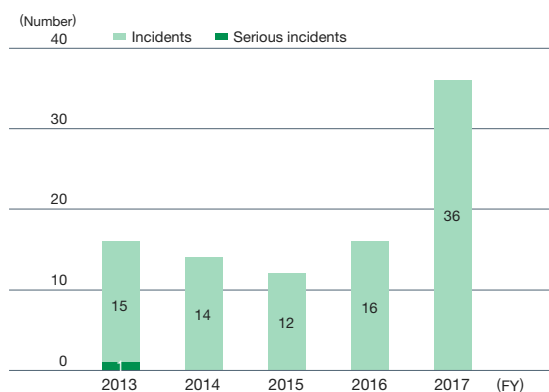
Preventing Process Safety Incidents and Occupational Accidents, Key Measures

In fiscal 2017, there were 14 incidents, including small fires and leaks of hazardous materials, as well as 22 chlorofluorocarbon gas leak incidents. In particular, the number of such gas leak incidents increased substantially year on year, up by 17 from fiscal 2016.

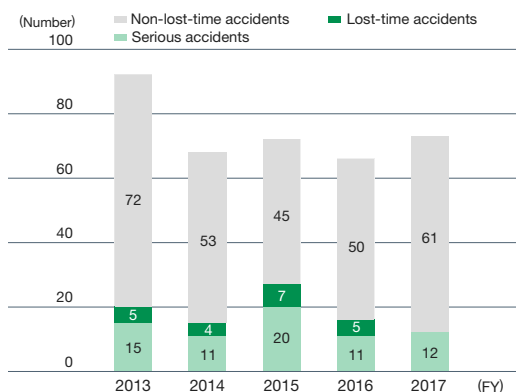
The main causes of the incidents were the corrosion and degradation of facilities and insufficient inspection and checking. Behind these factors, however, were management problems, including delays in response to facility degradation, insufficient knowledge and insufficient education.

In fiscal 2017, 12 serious occupational accidents resulting in four or more days of lost work occurred in Japan. These accidents included such incidents as getting caught or entangled in machinery and falls on level surfaces and from high places. The main causes of these occupational accidents were lack of competency in basic practices and operations and inadequacies in work procedures. Behind these factors were management problems, including insufficient education and training, insufficient safety activities, and insufficient risk assessment.

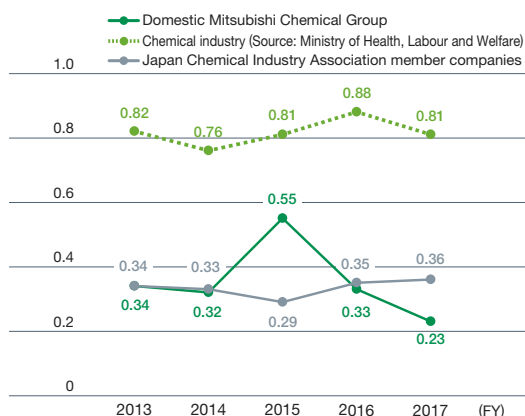
Mitsubishi Chemical Group Process Safety Incidents in Japan



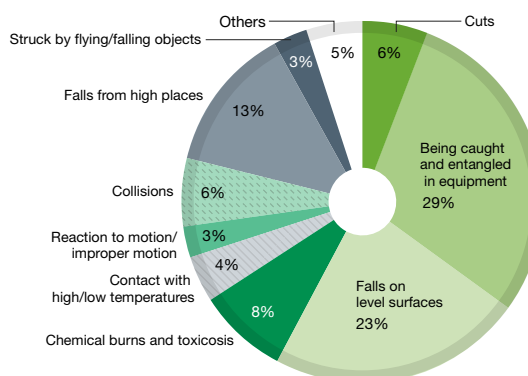
Mitsubishi Chemical Group Occupational Accidents in Japan



Lost-Time Injury Frequency



Mitsubishi Chemical Group Lost-Time Accidents by Classification (FY2013–2017)



* Data for fiscal 2016 and earlier are the totals of the figures for the previous Mitsubishi Chemical, Mitsubishi Plastics and Mitsubishi Rayon and their respective domestic group companies.

Process Safety and Disaster Prevention, Occupational Safety

In light of the problems underlying these process safety incidents and occupational accidents, in fiscal 2018, we are implementing the following key measures.

■ Thoroughness and Continuation of Safety Management Activities

In addition to efforts to thoroughly ensure safe practices and operations, we are working to qualitatively enhance safety activities through such means as risk prediction and near-miss reporting as well as to enhance risk assessments and effectively utilize information to prevent the recurrence of incidents and occupational accidents as well as the occurrence of similar incidents and accidents.

■ Thoroughness and Continuation of Facility Management

We systematically inspect, diagnose and repair aging facilities while steadily performing regular monitoring to ensure that signs of irregularities in facilities are quickly detected and dealt with appropriately.

■ Human Resources Training

We strive to train people who can think for themselves, have good judgment, and take action. For inexperienced employees, we carry out education on not only operational procedures, but also basic practices and operations and following rules about prohibited behaviors. Furthermore, to enhance risk assessments, we are proactively developing human resources with specialized knowledge and analytical skills.

■ Accident and Natural Disaster Response

To minimize and contain harm should an accident or natural disaster occur, we have in place systems for dealing with the areas around our sites and conduct training accordingly. We have in place robust earthquake and tsunami countermeasures and carry out related drills. In addition, we are advancing measures to deal with natural disasters caused by extreme weather due to climate change.

■ Focus: Process Safety Evaluations

Aiming to accurately understand and improve its process safety capabilities, since fiscal 2014, MCC has commissioned process safety evaluations from an external organization (the Japan Society for Safety Engineering Process Safety Enhancement Center). These evaluations highlight weaknesses at plants and specific divisions, helping us advance improvements and continuously improve process safety.



Process safety evaluation by an external organization

Risk Assessment

MCC implements robust risk assessments of processes, operations and chemicals, striving to prevent process safety incidents and occupational accidents. In these risk assessments, we use creative techniques to comprehensively identify and evaluate risks related to process safety, occupational accidents and health. For example, when assessing processes related to product processing, we identify not just occupational accident risks, but process safety risks related to operations and risks related to unsteady conditions, and then take action to reduce the risks thus identified. Furthermore, to effectively reduce risks related to changes, we use mechanisms for identifying all changes and conduct safety assessments under the supervision of expert technicians.

Use of Past Incident/Accident Information

MCC uses shared information about past process safety incidents and occupational accidents at the company and other companies to help prevent the occurrence of similar issues. When incidents or occupational accidents do occur, we determine the root causes using such analytical tools as VTA¹ and explanation-oriented analysis, then implement countermeasures without fail. Furthermore, regarding occupational accidents that are likely to have serious consequences, such as being caught or entangled in machinery and falls, we carry out company-wide countermeasures, endeavoring to prevent their occurrence.

¹ Variation Tree Analysis: A method of determining the causes of incidents by mapping irregular actions, operations and decisions that lead to incidents in time-series flow charts for people, things and organizations.

Human Resource Development Initiatives

MCC implements human resource development using educational plans tailored to specific types of work and levels of seniority.

We carry out education and drills for employees who conduct operations at manufacturing sites to ensure that they can correctly carry out basic practices and operations and follow rules about prohibited behaviors. We also use creative techniques to help employees apply the knowledge gained through education at actual work sites. Furthermore, we carry out experiential education using facilities that provide simulated experiences of process safety incidents and occupational accidents to increase employees' sensitivity to danger.

We also carry out initiatives to ensure that technical staff obtain specialized knowledge about risk assessment and analytical methods. These initiatives include specialized education in such areas as chemical engineering and mandatory participation in safety assessment in their respective divisions.

Focus: Experiential Education

Experiential education is a form of training that provides employees with simulated experiences of process safety incidents and occupational accidents resulting from fires, explosions and other incidents that could really occur in chemical plants. This first-hand experience helps raise employees' sensitivity to danger and motivate them to maintain safe practices and operations.



Experiencing work in high places



Experiencing being caught in machinery



Experiencing a fire and explosion



Experiencing a liquid blast

Process Safety and Disaster Prevention, Occupational Safety

Accident and Natural Disaster Response

MCC has in place a range of countermeasures to minimize and contain harm due to accidents and natural disasters. In fiscal 2017, we particularly evaluated the external effects, such as those on neighboring areas, of worst-case accidents at our plants, decided what to do for relevant stakeholders in the event of a disaster at a plant, and reflected these decisions in training.

Earthquake-Resistant High-Pressure Gas Equipment

MCC uses earthquake resistance design standards to evaluate the earthquake resistance of such facilities as spherical storage tanks with welded steel pipe braces and high-pressure gas facilities designated as vital in terms of earthquake-resistant design. Based on such evaluation, MCC has drawn up plans to improve facilities where necessary and is advancing earthquake countermeasures in line with said plans.

(1) Spherical storage tanks with welded steel pipe braces

We have completed earthquake countermeasures for eight of the nine tanks found to require them. The installation of earthquake countermeasures for the remaining tank is currently under way and expected to be completed in fiscal 2019.

(2) High-pressure gas facilities designated as vital in terms of earthquake-resistant design

We have completed earthquake countermeasures for 17 of the 28 facilities found to require them. Earthquake countermeasures for the remaining 11 facilities are expected to be completed in fiscal 2020.

Focus: Comprehensive Disaster Drill

On October 23, 2017, the Mizushima Plant and the Kurashiki City Mizushima Fire Bureau held a joint drill based on a fire due to a high-pressure gas leak. In addition to confirming the plant's internal disaster prevention framework and drilling evacuation and firefighting procedures, this comprehensive disaster drill included coordination with the local authorities and practice contacting neighboring residents.



Joint firefighting drill with the public fire bureau and company firefighting team

Environmental Conservation

Basic Policy and Key Measures

Aiming to contribute to the global environment, Mitsubishi Chemical (MCC) proactively works to reduce its greenhouse gas emissions, conserve resources and energy, prevent contamination of the air, water and soil, limit waste generation, encourage reuse and recycling, engage in activities and develop technologies that help conserve the natural environment, and develop and produce environmentally friendly products. In these ways, MCC strives to reduce its environmental burden at every level of its business activities.

In addition, to ensure legal compliance, we carry out training on environmental laws and regulations, conduct environmental audits and hold twice annual liaison meetings at which MCC Group managers in charge of environmental issues exchange the latest information about legal amendments and other issues.

In fiscal 2017, we set the annual targets of zero environmental incidents and contributing to the global environment and implemented the following key measures

■ Reducing Environmental Risk

We are implementing legal education and environmental audits to ensure compliance with environmental laws and regulations and systematically reducing environmental risk by implementing risk assessments.

■ Reducing Environmental Impact

We are working to reduce our environmental impact through such means as cutting greenhouse gas emissions, saving resources and energy, and reducing emissions of pollutants.

■ Coexisting Harmoniously with Local Communities

We are letting local communities know about our environmental conservation initiatives and promoting harmonious coexistence through communication.

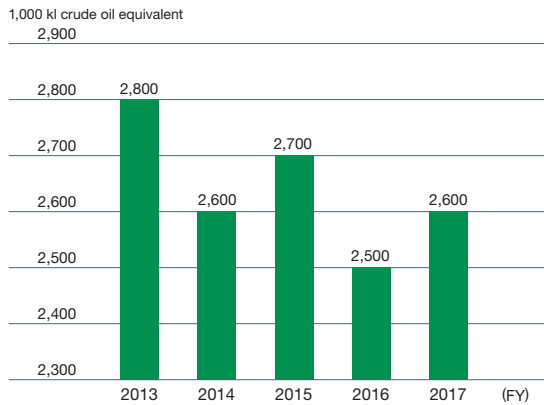
Environmental Conservation

Addressing Climate Change

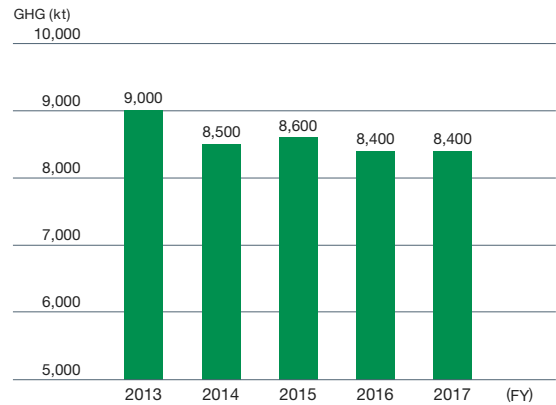
In line with the target set by Mitsubishi Chemical Holdings (MCHC) of reducing greenhouse gas emissions at least 17% compared with fiscal 2005 levels by fiscal 2015, MCC worked to cut its greenhouse gas emissions and achieved the fiscal 2015 target. We have maintained emissions at this lower level since fiscal 2016.

Going forward, we will expand the range covered by this measure to include overseas Group companies and advance initiatives to further reduce greenhouse gas emissions as we aim for the targets of the MCC Group medium-term management plan.

Energy Consumption



Greenhouse Gas Emissions



* Environmental data for fiscal 2016 and earlier are the totals of the figures for the previous Mitsubishi Chemical, Mitsubishi Plastics, Mitsubishi Rayon, and their respective domestic group companies.

** Since fiscal 2015, energy consumption and GHG emissions have been calculated based on the GHG Protocol. Energy consumption is given as the total of that for the three previous companies before the formation of the current Mitsubishi Chemical but does not include their domestic group companies.

Life Cycle Assessments

Life cycle assessment (LCA) is an approach that enables the quantitative evaluation of the environmental burden generated by a product or service over its entire life cycle (from resource collection through raw material production, product manufacturing, distribution, consumption, disposal and recycling) or at specific stages of said life cycle. The evaluation of the environmental impact of MCC's products and services over their entire life cycles better enables the company to develop environmentally friendly products and services and provide them to society.

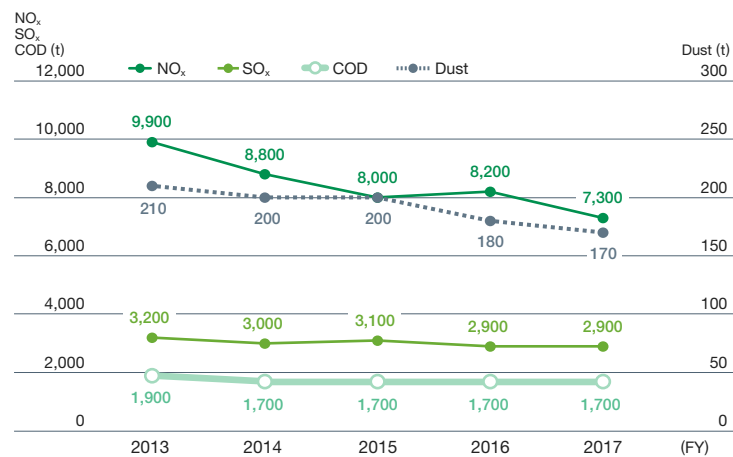
Preventing Air, Water and Soil Pollution

MCC handles a wide range of chemical substances and therefore maintains ongoing measures to reduce emissions of hazardous air pollutants and of pollutants into public bodies of water through such means as installing and improving emission gas and wastewater treatment facilities.

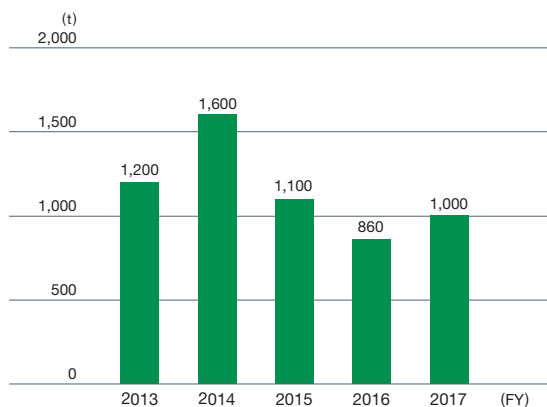
We have been reducing or maintaining at a steady level the environmental burden our businesses place on atmospheric and water quality, as measured by NO_x, SO_x and dust emissions as well as chemical oxygen demand (COD). In fiscal 2017, we reduced emissions of NO_x 900 tons due to structural reorganization and other factors. MCC's emissions of PRTR-regulated substances¹ and VOCs² rose due in part to increased production volume.

- 1 Pollutant Release and Transfer Register (PRTR): A system for filing notifications of the amounts of chemical substances released and transferred. This system enables the identification, aggregation and publishing of data on the types, sources and amounts of hazardous chemical substances that have been released into the environment or transferred outside facilities as waste.
- 2 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).

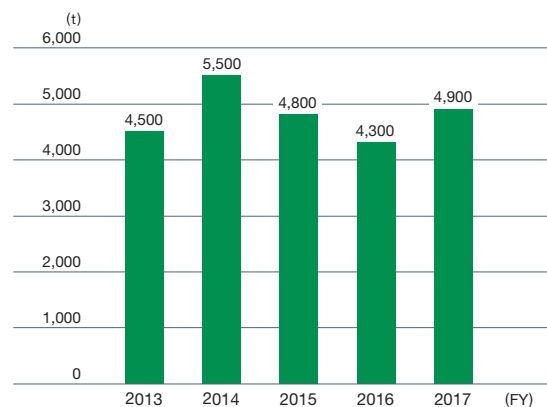
Reducing Our Environmental Burden on the Atmosphere and Public Water Sources



PRTR-Regulated Substance Emissions



VOC Emissions



Environmental Conservation

Focus: Tackling Marine Plastic Debris

MCC is actively working to tackle the problem of marine plastic debris. We joined the Japan Plastics Industry Federation's declaration on solving the problem of marine plastic debris. Each plant, of course, strives to prevent emissions of pellets and resins into rivers and oceans. In addition, each plant also promotes volunteer efforts to clean the coastal areas of nearby rivers and oceans.



Volunteers cleaning the beach near the Sakaide Plant

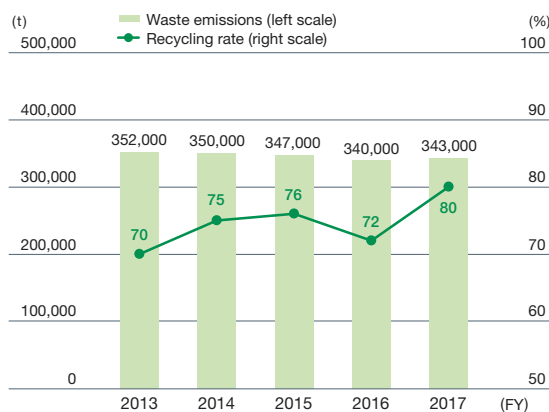


Beach cleaning volunteers from the Toyama Plant

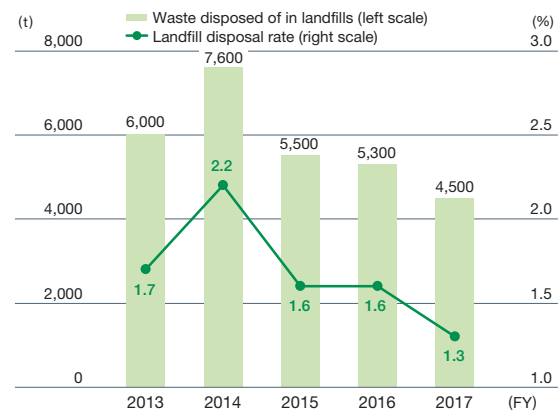
Waste Reduction and Recycling

MCC is advancing 3R activities (reduce, reuse, recycle) in an effort to reduce its industrial waste. As a result of such efforts, although there have been fiscal years in which, due in part to increased construction waste, waste disposed of in landfills increased, we have put the generation of said waste back on a downward track by promoting recycling. Going forward, we will continue working to improve the recycling rate of industrial waste by strictly enforcing sorted collection and strengthening coordination with disposal contractors.

Industrial Waste Emissions and Recycling Rate



Waste Disposed of in Landfills and Landfill Disposal Rate



Biodiversity Conservation

Based on MCHC's Biodiversity Conservation Policy, MCC pursues initiatives that contribute to the global environment and thus conserve biodiversity. Through these initiatives, we work to reduce environmental risk and impact and thereby lessen our business activities' impact on biodiversity. In addition, we strive to conserve the natural environment by cleaning up neighboring areas and coastal areas and protecting our plants' green areas.

Environmental Accounting

MCC uses environmental accounting, based on the Ministry of the Environment's guidelines, to better understand the costs and effects of its environmental burden reduction and conservation efforts.

In fiscal 2017, MCC invested ¥2.7 billion in such areas as reinforcing wastewater management and air pollution prevention and incurred ¥31.4 billion in expenses, including those for the operation and maintenance of pollution prevention equipment and proper waste disposal. Meanwhile, such positive factors as revenue from the sale of valuable materials and savings from energy use and lower waste disposal costs totaled ¥2.6 billion.

Investment and Expenses Related to Environmental Conservation and Process Safety

Environmental conservation costs				(Millions of yen)	
Category		Main initiatives	FY2017		
			Investment	Expenses	
Costs within business areas	1. Pollution prevention costs	Air pollution prevention, dust countermeasure reinforcement, dust collection system replacement, water pollution prevention, activated sludge consolidation, wastewater management reinforcement, response to deterioration of wastewater facilities and pipes, etc.	1,353	17,693	
	2. Global environmental conservation costs	CO ₂ emissions reduction, operational improvement, etc.	952	1,231	
	3. Resource-recycling costs	Industrial waste reduction, proper waste disposal, resource conservation, energy conservation, etc.	264	6,359	
Upstream/downstream costs		Waste reclamation, green purchasing, etc.	0	0	
Environmental conservation costs in management activities		Operation of units to address environmental conservation, ISO 14001 compliance and renewal, national exams, environmental education, etc.	0	1,564	
Environmental conservation costs in R&D activities		R&D for increased productivity	0	3,370	
Environmental conservation costs in social contribution activities		Construction and upkeep of factory green spaces	118	460	
Costs of dealing with environmental damage		Cleanup of contaminated soil, etc.	18	43	
Other environmental conservation-related costs			0	687	
Subtotal			2,706	31,406	
Positive economic effects				(Millions of yen)	
			FY2017		
(1) Income from recycling				1,611	
(2) Energy cost savings				323	
(3) Income from resource conservation				693	
Subtotal				2,626	

Product Stewardship

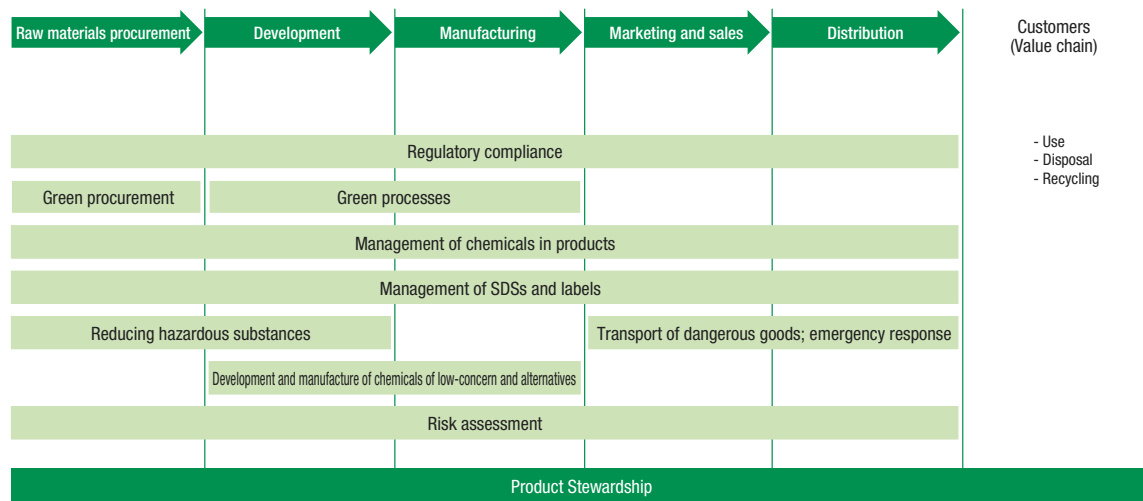
Basic Policy

Based on a product stewardship approach, the Mitsubishi Chemical (MCC) Group strives to minimize the adverse effects of its products on human health and safety and the environment. To this end, we evaluate and share information on risks related to product safety throughout product life cycles (raw materials procurement, development, manufacturing, marketing and sales, distribution, use, and disposal and recycling), working with stakeholders to proactively advance initiatives to secure the safety and wellbeing of society at all stages of the value chain.

These initiatives are in line with the Strategic Approach to International Chemicals Management (SAICM).¹ Along with process safety and disaster prevention, occupational safety and health, environmental conservation, chemical and product safety, and logistics safety, these initiatives are aimed at realizing KAITEKI through risk-based chemicals management across product life cycles.

¹ Strategic Approach to International Chemicals Management (SAICM):
A strategic approach to international chemicals management adopted by the International Conference on Chemicals Management (ICCM) and the United Nations Environment Programme (UNEP) in 2002.

Mitsubishi Chemical's Product Stewardship Initiatives



Chemicals Management

Management System and Regulations

Mitsubishi Chemical (MCC) maintains a system that ensures the rigorous management of chemicals in all its business domains.

To effectively utilize the favorable properties of its chemical raw materials, MCC collects and shares within the company information on all substances related to its products, including that on chemical hazards, applicable domestic and international regulations, and the results of risk assessments. In addition, we have built a support structure to better enable the business domains to implement proper chemicals management.

Because chemical regulations vary by country and region, MCC has appointed persons responsible for overseeing chemicals management at the regional headquarters¹ to reinforce the global management system.

We have laid out the essentials of chemicals management in our Chemicals Management Regulations, Standards for the Safe Management of Chemicals and Standards for Product Safety Management. Furthermore, we have formulated guidelines and manuals that provide concrete methods for working within regulations, authoring and issuing SDSs,² and implementing voluntary chemicals management. These efforts help ensure proper management.

1 Regional headquarters: Companies established to accelerate Mitsubishi Chemical's overseas business development by supporting business and revenue growth in key regions.

2 Safety data sheet (SDS): A document for providing information on the properties, hazards and toxicity, safety measures and emergency responses concerning chemical substances when transferring or providing chemicals to other business entities.

Compliance with Chemical Regulations

1. Japanese Laws and Regulations

MCC complies with wide-ranging laws concerning chemicals, including the Chemical Substances Control Law (CSCL), the Industrial Safety and Health Act's requirements concerning filing new chemical substance notifications, and the Poisonous and Deleterious Substances Control Law's requirements concerning the registration and management of manufacturing, importing and sale businesses as well as record maintenance. To ensure that such compliance is thorough and comprehensive, MCC has established internal guidelines and rules related to compliance with domestic laws and carries out centralized management using a database of notifications filed. In fiscal 2017, we launched guidelines for our chemicals management that will enable each business domain to verify the name and inventory status (new or existing chemical) for each substance in accordance with the CSCL. In fiscal 2018, we are reinforcing measures to promote awareness within the Company and related training.

2. Overseas Laws and Regulations

In the run-up to 2020, the target deadline for achieving the goals of SAICM,³ countries around the world (including China, South Korea, Taiwan, Thailand, the United States and Turkey) are enacting and amending legal regulations on chemicals. In particular, the mandatory registration of all existing chemicals, begun under REACH⁴ in Europe, will soon be adopted in South Korea and Taiwan. To respond to these changes, we are working with the regional headquarters and local Group companies to collect the latest information on legal requirements in each region or location and develop a system to ensure a more accurate response to regulations. In fiscal 2017, we systematically implemented and completed the registration of chemical substances produced or imported in quantities of less than 100 tons annually under REACH in Europe and measures to comply with the inventory reset rule under the U.S. TSCA.⁵ In fiscal 2018, we are focusing efforts on preparations for the full-fledged enforcement of new standards expected going forward, namely registration under K-REACH⁶ in South Korea and TCSCA⁷ in Taiwan.

3 Strategic Approach to International Chemicals Management (SAICM):

A strategic approach to international chemicals management adopted by the Governing Council of the United Nations Environment Programme in 2002.

4 Registration, Evaluation, Authorization and Restriction of Chemicals (REACH):

European Union regulations regarding the registration, evaluation, approval and restriction of chemical substances.

5 TSCA: Toxic Substance Control Act

6 Korea REACH (K-REACH): A law concerning the registration and evaluation of chemical substances.

7 TCSCA: Toxic Chemical Substance Control Act

Chemicals Management

Voluntary Chemicals Management Initiatives

1. Participation in Initiatives in and outside Japan

MCC contributes to the Global Product Strategy (GPS)⁸ activities advanced by the International Council of Chemical Association (ICCA) on an ongoing basis. MCC actively works with the ICCA as a CP&H LG⁹ member to plan and hold educational programs and workshops aimed at advancing capabilities in developing countries in order to achieve the goals of SAICM. We actively participate in the Japan Chemical Industry Association (JCIA) as an activity-promoting member of JIPS.¹⁰

2. Mitsubishi Chemical's Voluntary Initiatives

As part of its GPS activities, the MCC Group evaluates the risks of its chemical products, compiles the results as GPS Safety Summaries,¹¹ and publishes these summaries via a portal page (available in Japanese only) on the MCC website as well as on the ICCA website.

Furthermore, to prevent the theft and/or abuse of chemicals, MCC has established its own list of MCC specified chemicals, which includes voluntarily designated substances in addition to legally designated or restricted substances. We have established safety management guidelines for managing these substances at plants and laboratories, during logistics operations and during transfer to customers. In this way, we are working to reinforce the management of such substances.

These voluntary activities, launched in 2015, were recognized in May 2018 with MCC being granted the 12th annual JCIA Responsible Care Outstanding Award, receiving particular praise for its focus on supply chain management.



8 Global Product Strategy (GPS):

A voluntary initiative wherein companies appropriately manage and conduct risk assessments of their chemical products in order to minimize risks posed by chemical substances throughout the supply chain.

9 Chemical Policy and Health Leadership Group

10 Japan Initiative of Product Stewardship (JIPS):

A voluntary initiative promoted by the Japan Chemical Industry Association aimed at reinforcing risk-based chemicals management at companies.

11 GPS Safety Summary (sometimes abbreviated as GSS):

Documents that clearly explain methods for handling chemical substances and other information in detail that cannot be fully included on SDSs. These summaries are used in risk management-based chemicals management.

Providing Reliable Chemical Substance Information: SDS Management

We use comprehensive chemicals management systems (for example, K-Mates¹²), to support our expert staff in the proper provision of information to customers and supply chain operators as well as reliable chemicals management within the company.

The systems comprise databases of the chemical substances and components of products handled by MCC, their hazardous properties, relevant domestic and international laws and regulations, and other information. The system is capable of performing the GHS¹³ classification of chemical substances, determining the applicability of laws and regulations, and producing SDSs and labels in line with the laws and standards of a wide range of countries and regions, including Japan, Europe, the United States, and East Asian and ASEAN countries for review by expert staff. The system uses highly reliable data that is carefully reviewed by experts at Mitsubishi Chemical Research, an MCC Group company, to generate GHS classifications. Furthermore, we are implementing proactive management using a function of the system that enables users to search chemical substances and products in the MCC database that may be subject to anticipated legal or regulatory amendments.

12 KAITEKI-integrated System of Risk Management & Technical Information Supports on Chemicals

13 Globally Harmonized System of Classification and Labelling of Chemicals (GHS):

A system for classifying chemicals by the type and degree of their hazardous properties based on globally harmonized rules and communicating this information using labeling and the provision of SDSs.

In-House Chemicals Management Training

In addition to basic chemicals management education, MCC hosts the Chemicals Management Seminar on a monthly basis at MCC Group headquarters. This seminar serves to teach Group company employees about increasingly stringent regulations in and outside Japan and how to address them. In fiscal 2017, a total of 708 employees participated. Furthermore, plants and R&D centers provided education on relevant laws and regulations as well as 21 practical training sessions on GHS classification and labeling methods, and reading and preparing SDSs.



In-house chemicals management training

Quality Assurance

Basic Policy

The Mitsubishi Chemical (MCC) Group believes that implementing thorough quality control (QC) is important to ensuring product safety and continuously improving quality so that MCC Group customers can use MCC Group products safely and with confidence.

As an integrated chemical company that provides a wide array of products and services to customers in a broad range of industries, it is MCC's duty to prevent quality and product liability issues while working to further increase customer satisfaction by offering safe, reliable products and services. We strive to fulfill this duty in line with the following basic policy.

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

Quality Assurance Initiatives

In order to ensure awareness of the basic policy throughout the company, the MCC Group established new rules and policies at the time of the merger that formed the new MCC in April 2017 and is implementing initiatives to reinforce quality assurance systems at its plants. Furthermore, we hold regular quality assurance meetings as part of efforts to share and effectively utilize information about quality within the Group. As a result, in fiscal 2017, there were no quality problems that caused major difficulties for customers.

Product Information Disclosure

Around the world, corporations are facing growing demands to exercise proper management of chemical substances in products throughout the entire life cycle as well as to disclose information on such chemical substances. To accurately respond to these demands, MCC has established management standards for chemical substances in products and continues to contribute to the smooth operation of chemSHERPA¹ through the Joint Article Management Promotion-consortium (JAMP).² Furthermore, with regard to conflict minerals,³ which present possible human rights issues, we have established a policy and strive to meet customer requests.

MCC is working with its business partners and customers to contribute to the creation of a social system capable of managing chemicals throughout the supply chain.

1 chemSHERPA: A new private-public information communication scheme aimed at standardizing communications about the chemicals included in products.

2 JAMP: A cross-industry organization that works to promote the appropriate management, disclosure and communication of information on chemicals contained in "articles" (parts and final products) throughout the supply chain.

3 Conflict minerals: Tantalum (Ta), tin (Sn), gold (Au), tungsten (W) and other minerals extracted in the Democratic Republic of the Congo and neighboring countries that are used to fund armed groups.

Logistics

Basic Policy

Mitsubishi Chemical (MCC) strives to put safety first and promote strict compliance, risk management, respect for human rights and communication with business partners in order to realize KAITEKI. Based on a product stewardship approach, we are promoting KAITEKI logistics to earn the trust of customers and society in logistics operations.

Hazardous Materials Transport Initiatives and System to Prevent External Harm in Case of an Accident

MCC focuses considerable effort on ensuring the safe transport of hazardous materials.

MCC's business domains regularly hold responsible care meetings with logistics subsidiaries, maintaining close communication and implementing measures aimed at reducing problems, accidents and occupational injuries.

We work with logistics subsidiaries to ensure that all shipments are accompanied by yellow cards¹ and educate our business partners about the chemical properties of our products. In these ways, we work to enhance understanding of the products being transported and sensitivity to safety.

In addition to initiatives aimed at preventing accidents, we also conduct regular disaster drills with logistics subsidiaries and are taking steps to address the risk of a serious road accident through a contract with the Maritime Disaster Prevention Center. Furthermore, for products that present particularly high risk if stolen or lost, we have established our own management standards that we use in the transportation and storage of such products.

¹ Yellow card: A document that contains emergency safety procedures to be taken in the event of a transportation accident and contact information for MCC.

Modal Shifts: Increasing Energy Efficiency

MCC is also aggressively working to save energy in logistics.

We are working with logistics subsidiaries to improve energy efficiency and reduce CO₂ emissions. Specifically, we are implementing such measures as increasing transport lot sizes and promoting weight reductions by utilizing ship propellers made with carbon fiber, an MCC product. MCC is also actively advancing modal shifts to rail transport. As a result of these initiatives, MCC has received Eco Rail Mark certification from the Ministry of Land, Infrastructure, Transport and Tourism in recognition of its efforts to promote environmentally friendly logistics.



Propeller made with carbon fiber



Eco Rail Mark

Company Data (Environment and Safety)

Mitsubishi Chemical Group Companies Promoting Responsible Care Activities

As of March 2018

Petrochemicals Business Domain

Japan Polychem
Japan Polypropylene
Japan Polyethylene
Mitsubishi Chemical Indonesia

Carbon Business Domain

Kansai Coke and Chemicals

MMA Business Domain

Mitsubishi Chemical Lucite Group
Huizhou MMA
Suzhou Sanyouli Chemicals
MCC Unitec
Thai MMA
Mitsubishi Chemical Polymer Nantong
Suzhou MRC Opto-Device
Diatec
Ryoko
Acry Sunday
Diapolyacrylate

Advanced Polymers Business Domain

Mitsubishi Chemical Performance Polymers Europe
Mitsubishi Chemical Performance Polymers
Mitsubishi Chemical Performance Polymers (China)
Japan Unipet
RHOMBIC

High Performance Chemicals Business Domain

DIACHEM RESINS INDONESIA
Toei Kasei
Dianal America
Japan Coating Resin
Mitsubishi Chemical Analytech
ARKEMA Yoshitomi
Mitsubishi-Chemical Foods
Nippon Kasei Chemical

Information, Electronics & Display Business Domain

MC PET FILM INDONESIA
Mitsubishi Polyester Film Suzhou
Mitsubishi Chemical Converting Film Wuxi
Tai Young High Tech
Mitsubishi Chemical Infonics
Shinryo
Mitsubishi Chemical Media
The Nippon Synthetic Chemical Industry

High Performance Films Business Domain

J-Film
Tai-Young Film
DiaPlus Film
Mitsubishi Polyester Film (U.S.A.)
Mitsubishi Polyester Film (Germany)

Environment & Living Solutions Business Domain

Dalian Rayon Environmental Equipment
Wuxi Rayon Membrane Technology
Fengxin JDL Environment Protection
Mitsubishi Chemical Aqua Solutions
MCC KODA
Mitsubishi Chemical Cleansui
Wellthy
Resindion
Tai Young Chemical
Mitsubishi Chemical Agri Dream
Mikado Chemical M.F.G.
Mitsubishi Chemical Infratec
Astro
DIATEX

Advanced Moldings & Composites Business Domain

Quadrant
Toyama Filter Tow
Tosen
Ryoko Sizing
TK Industries
Mitsubishi Chemical Carbon Fiber and Composites (U.S.A.)
Challenge
MCC Composite Products
Aldila
Wethje Carbon Composites
Wethje Immobilien
ALPOLIC
Mitsubishi Chemical Composites America
Ryobi Techno
Shanghai Baoling Plastics
Yuka Denshi
Dia Molding

New Energy Business Domain

MC Ionic Solutions UK
MC Ionic Solutions US
Qingdao Anode Kasei

Corporate Domain

Mitsubishi Chemical Logistics
Mitsubishi Chemical Engineering Corporation
Ryouei
MRM Otake
MRM Toyohashi
MRM Toyama
Ryoko Tekunika
Hokuryo Mold
Mitsubishi Chemical High-Technica

Company Data (Environment and Safety)

Safety Data

Data for years prior to and including fiscal 2016 are the sums of the figures for the previous Mitsubishi Chemical, Mitsubishi Plastics, Mitsubishi Rayon and their respective domestic group companies before the formation of the current Mitsubishi Chemical.

Mitsubishi Chemical Group Process Safety Incidents in Japan

Classification	FY2013	FY2014	FY2015	FY2016	FY2017
Incidents	15	14	12	16	36
Serious incidents	1	0	0	0	0

Mitsubishi Chemical Group Occupational Accidents in Japan

Classification	FY2013	FY2014	FY2015	FY2016	FY2017
Non-lost-time accidents	72	53	45	50	61
Lost-time accidents	5	4	7	5	0
Serious accidents	15	11	20	11	12

Mitsubishi Chemical Group Lost-Time Accidents by Classification

Classification	FY2013	FY2014	FY2015	FY2016	FY2017	Total
Cuts	2	1	1	6	1	11
Being caught and entangled in equipment	10	10	10	9	14	53
Falls on level surfaces	8	7	10	9	8	42
Chemical burns and toxicosis	2	2	3	6	2	15
Contact with high/low temperatures	2	1	3	2		8
Reaction to motion/improper motion	4		1			5
Collisions	2		3		5	10
Falls from high places	5	3	3	4	8	23
Struck by flying/falling objects		1	3	1		5
Others	1	1	2	2	4	10

Environmental Data

Data for years prior to and including fiscal 2016 are the sums of the figures for the previous Mitsubishi Chemical, Mitsubishi Plastics, Mitsubishi Rayon and their respective domestic group companies before the formation of the current Mitsubishi Chemical.

Mitsubishi Chemical Group Emissions of Pollutants into the Atmosphere and Water Systems (t)

Pollutant	FY2013	FY2014	FY2015	FY2016	FY2017
NO _x	9,900	8,800	8,000	8,200	7,300
SO _x	3,200	3,000	3,100	2,900	2,900
BOD	120	110	100	100	250
COD	1,900	1,700	1,700	1,700	1,700
Dust	210	200	200	180	170
Total phosphorus	70	60	50	60	50
Total nitrogen	5,700	5,700	5,500	5,700	5,800
VOCs ¹	4,500	5,500	4,800	4,300	4,900

¹ Includes PRTR-regulated substances.

Mitsubishi Chemical Group Water Intake and Discharge Volumes (km³)

Type	FY2013	FY2014	FY2015	FY2016	FY2017	
Intake	Tap water	30,500	29,300	28,400	31,300	33,500
	Groundwater	26,500	24,200	22,300	23,200	25,500
	Industrial water	115,600	109,800	102,000	97,800	98,700
	Seawater	517,700	473,100	457,800	463,100	461,300
Discharge	Oceans	577,100	522,400	493,900	495,100	488,800
	Streams and wetlands	46,400	42,300	51,200	48,300	52,400
	Sewerage	3,900	3,300	3,500	3,600	3,300

ISO 14001 Certified Mitsubishi Chemical Plants

Plant	Certification body	Registration date	Plant	Certification body	Registration date
Otake Plant	LRQA ¹	March 2016	Mizushima Plant	JCQA	March 2000
Kurosaki Plant	JQA ²	July 2000	Kashima Plant	JCQA	March 2001
Nagahama and Azai Plants	JQA	December 1999	Sakaide Plant	LRQA	December 2000
Yokkaichi Plant	JCQA ³	July 1999	Tsukuba Plant	JCQA	February 2000
Toyama Plant	LRQA	July 2016	Santo Plant	JCQA	December 2001
Hiratsuka Plant	JQA	March 2000	Tsurumi Plant	LRQA	October 2016
Toyohashi Plant	LRQA	July 2016	Ueda Plant	JCQA	October 2003

¹ LRQA: Lloyd's Register Quality Assurance Limited

² JQA: Japan Quality Assurance Organization

³ JCQA: Japan Chemical Quality Assurance Ltd.

As of March 31, 2018



Basic Policy

The Mitsubishi Chemical Holdings Group identifies its stakeholders as its customers, shareholders, investors, communities, employees, business partners and everyone else who supports its corporate activities, as well as society at large and the foundation upon which it is built, the Earth. Based on this understanding, Mitsubishi Chemical works to earn the trust of its stakeholders by valuing and respecting stakeholders, engaging in dialogue and proper disclosure, and reflecting the fruits of such efforts in all its corporate activities.

Together with Customers

Basic Policy

In line with the Mitsubishi Chemical Holdings Group Charter of Corporate Behavior, Mitsubishi Chemical (MCC) constantly strives to achieve customer satisfaction by keeping the promises made in contracts with them, ensuring the safety and quality of all the products and services it supplies, engaging in close customer communications and advancing R&D.

Making Product Information Available

Over 1,100 product information entries (approximately 530 in Japanese, 350 in English and 240 in Chinese), including information on the products of Group companies, are available on MCC's website. In addition, Safety Data Sheets (SDSs) and GPS Safety Summaries (GSSs) can also be accessed through the website (available in Japanese only).

For product information, please contact the department or Group company that handles the product in question. Lists of MCC's departments and Group companies with information on the products they handle are available on MCC's website.

<https://www.m-chemical.co.jp/en/products/departments/mcc/index.html>

If you are unsure which department to contact, please contact the call center for guidance.

Call center (+81) 3-6748-7300
9:00–12:00, 13:00–17:45 (Closed Saturdays, Sundays and national holidays)

Customer Satisfaction Surveys

The Mitsubishi Chemical Holdings (MCHC) Group believes that close customer communication is essential to achieving accurate insight into social issues and the challenges that customers face and to finding solutions together. Accordingly, the Group has been conducting customer satisfaction surveys since fiscal 2012. Specifically, we survey customers in and outside Japan about products handled by our core businesses, covering such topics as quality, supply systems, sales promotion and technical support, as well as the attitudes and reliability of individual operating companies. By analyzing the results of these surveys and implementing a PDCA cycle, MCC aims to provide even better customer service and improve customer satisfaction.

Together with Customers

KAITEKI SQUARE

KAITEKI SQUARE was established in October 2012 in our Tokyo headquarters as a showroom for the MCHC Group. It is an important platform for communication with our customers and clients, a place where we can interact and exchange ideas about a better future.

KAITEKI SQUARE comprises three zones. The first zone is the Special Exhibition Zone, which focuses on the role of science and technology in solving various challenges facing 21st-century society. The second zone is the Permanent Exhibition Zone, which highlights the technological capabilities and collective strength of the MCHC Group by showcasing products and technologies that the Group is working on that are aimed at realizing KAITEKI. The last is the Concept Zone, an interactive video exhibition that offers a glimpse into the societies of the future.

We look forward to welcoming more and more visitors to our showroom and having meaningful discussions on how to realize KAITEKI in the future together.



KAITEKI SQUARE at the Tokyo headquarters

Together with Business Partners

Aiming to realize KAITEKI, an original concept created by the Mitsubishi Chemical Holdings (MCHC) Group, Mitsubishi Chemical (MCC) works with business partners to promote purchasing and procurement that take into account CSR-related considerations based on the Mitsubishi Chemical Holdings Group Charter of Corporate Behavior.

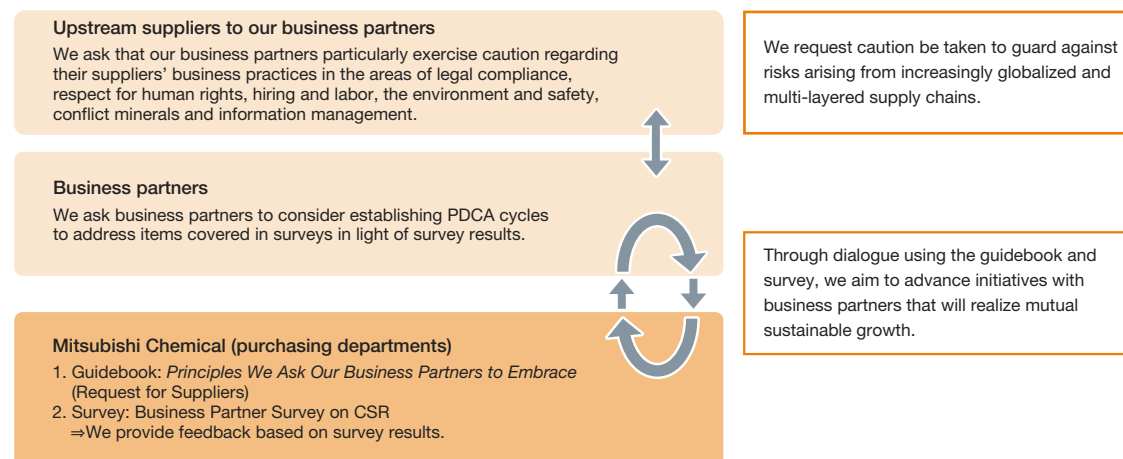
Promoting Communication

We facilitate communication with raw materials and packaging materials suppliers using a guidebook and survey to ensure suppliers share our understanding of CSR issues and to confirm the status of related initiatives.

We utilize survey results to provide feedback to business partners and engage in dialogue about making specific improvements. By doing so, MCC aims to build sound relationships with its business partners that enable mutual growth and improvement.

In fiscal 2018, we plan to again carry out a survey of our business partners. We believe that the survey, covering such topics as the Mitsubishi Chemical Holdings Group Charter of Corporate Behavior and responses to recent external trends, will allow us to more accurately express our commitments and priorities, and improve the quality of communications with business partners.

Mitsubishi Chemical's CSR Procurement



Compliance with the Subcontract Act

To maintain sound relationships with its business partners, MCC has clearly articulated a system for ensuring compliance with the Subcontract Act and established internal rules, including the Subcontract Act Compliance Regulations, in which the specific scope of application and compliance requirements of the Subcontract Act are laid out. To ensure that transactions are conducted pursuant to such internal rules, MCC systematically implements internal training and audits of related departments.

Together with Employees

Mitsubishi Chemical (MCC) is implementing a range of initiatives aimed at enabling employees—upon whom realizing KAITEKI depends—to exercise their abilities to the fullest as well as at achieving sustainable corporate development based on a new relationship of trust between employees and management.

Basic Policy

“Utilizing people’s capabilities” is one of the fundamental management policies of the MCC Group. We practice health and productivity management and carry out management with the aim of empowering all Group members to work with enthusiasm, motivation and initiative, allowing each individual to exercise their abilities to the fullest while promoting diversity and viewing the diversity of human resources as a strength.

■ The Human Resources and Organization We Aspire to Be

We, as individuals, aspire to:

- Think deeply about, take action according to, and take responsibility for our own duties and roles.
- Proactively embrace differences, respect one another and broadly connect with others.
- Look beyond the status quo and take new action to continuously and ambitiously seek to create value.

We, as an organization, aspire to:

- Share common goals and a common direction and create an organization where we can all thrive.
- Anticipate change and work together to take action quickly.
- Leverage diverse individuality and ways of thinking to continually seek value creation that is greater than the sum of our individual contributions ($1 + 1 > 2$).

Personnel Strategy for Sustainable Corporate Development

MCC is mainly implementing initiatives related to the following issues with the aim of utilizing people's capabilities.

- KAITEKI Health and Productivity Management
- Respect for human rights and promoting diversity
- Effective placement and human resource development

In implementing initiatives related to the first of these, KAITEKI Health and Productivity Management, we are focusing on both health support and workstyle reforms, aiming to improve health at the individual and workplace levels. That is, we are working to realize workstyles that facilitate health and job satisfaction for every employee as well as workplace environments that allow each individual to thrive and utilize their abilities to the fullest. MCC is working strategically—investing and building frameworks—to make this happen. We are encouraging every employee to proactively examine their own health, work and workplace, ask what they can do to enhance their own health and vigor at work, and take action accordingly. We believe that this approach will help each employee achieve a greater sense of satisfaction and achievement both at work and in their everyday lives. Furthermore, individuals and organizations backed up by health exert a positive influence their families and communities. In this way, we are confident that we can contribute to society through our businesses and thus contribute to realizing KAITEKI.

As for the second issue, respect for human rights and promoting diversity, we want the MCC Group to be an organization in which all employees respect one other's diverse individuality and values, including nationality, race, religion, age, gender, sexual orientation and disability or lack thereof, and together fulfill the Group's corporate social responsibility while enabling every individual in the Group to exercise their abilities to the fullest. Aiming to lay the foundations and create support to enable diverse human resources to thrive, we are further developing our existing initiatives related to respect for human rights, hiring people with disabilities, enabling woman to succeed, and providing support for child care and nursing care. At the same time, we are working to create environments that are accommodating of all employees, regardless of nationality, and to foster understanding and provide support for LGBT individuals.

The third issue is effective placement and human resource development, an area in which we aim to enable every employee to work with enthusiasm, motivation and initiative and to exercise their abilities to the fullest. Specifically, we are engaging in personnel placement on a Group-wide basis to meet the demands created by globalization. We have also adopted a career development program—a system for medium- to long-term strategic personnel placement and development with the aim of encouraging employees to pursue self-directed growth. Going forward, based on this program, while clearly delineating the roles of the Group in Japan and the regional headquarters, we will advance effective placement and human resource development across the MCC Group as a whole.

Together with Employees

Employee Perception Surveys

Once a year, the MCC Group conducts an employee perception survey of its employees in Japan and those temporarily stationed overseas. In fiscal 2017, approximately 33,000 Group employees answered the survey, for a response rate of approximately 94%.

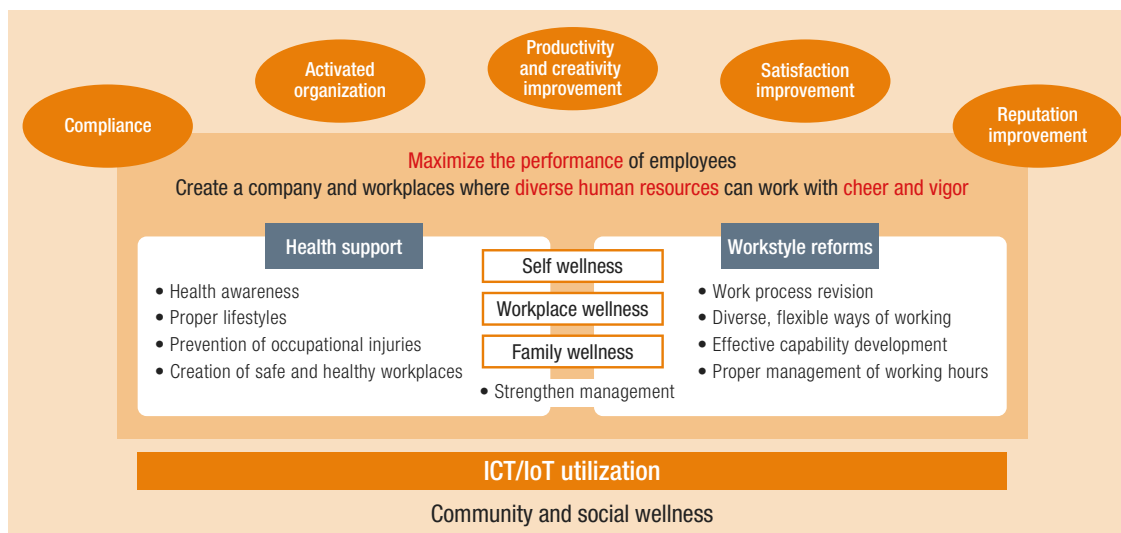
The survey covers a diverse range of topics, including employees' mindsets and values regarding work and their workplace conditions. The survey results provide useful information on employee satisfaction, one of the items in the MOS Indices, and we use them to reflect employee perspectives in management.

KAITEKI Health and Productivity Management

Basic Policy

Mitsubishi Chemical (MCC) is implementing KAITEKI Health and Productivity Management, aiming to ensure that every employee can thrive and find purpose and satisfaction in their job while leading a rich life, striking a good balance between work and private life. We have defined what KAITEKI Health and Productivity Management is and set out initiatives and goals in this area under a name that incorporates our ideal of KAITEKI—KAITEKI Health and Productivity Management. Accordingly, we are strategically investing management resources in order to maximize the performance of one of the greatest assets of any company—the people who work there—from the perspective of health.

KAITEKI Health and Productivity Management



We are advancing KAITEKI Health and Productivity Management, based on health support and workstyle reforms, by carrying out specific initiatives and measures based on the three perspectives shown below.

Self Wellness

Being Healthy Ourselves

In line with the principle that the primary responsibility for one's health lies with oneself and to ensure that we can work effectively, we will each take the initiative to manage our own well-being.

Workplace Wellness

Creating Healthy Workplaces

We will respect the individuality of the people we work with and support one another in order to build vibrant, creative workplaces by improving workplace environments and work processes.

Social Wellness

Building Healthy Families and Nurturing Our Ties to the Community

By enhancing self wellness and workplace wellness, we will aim to broadly contribute to society as members of our respective families and communities.

We have established a vitality index, workstyle index, and health index as key performance indicators (KPIs) of the progress and results of the initiatives and measures based on the above three perspectives. We use these KPIs to implement PDCA cycles.

We are also working with our health insurance union and labor unions while promoting information sharing and coordination with Group companies.

KAITEKI Health and Productivity Management

Health Support

Basic Policy for Managing and Enhancing Health

MCC has laid out necessary rules for managing employees' physical and mental health in its Health Management Regulations. We maintain a health and safety management system and provide health check-ups and stress check tests in compliance with relevant laws and regulations. While duly respecting our employees' privacy, we actively work to maintain and improve their physical and mental health and implement health management activities. Managers and specialized staff, including human resource department staff and industrial physicians, each aware of their own roles and duties, coordinate to maintain and improve conditions, namely working hours, work content and burden, and work environments. Furthermore, should any physical or mental health problems that may affect an employee's ability to do their job arise, said staff responds appropriately.

Occupational Accident Countermeasures Focusing on Human Factors

KAITEKI Exercises and Safety Fitness Tests

In Japan and within the company, falls are one of the most frequently occurring causes of injury. We have made company-wide efforts to prevent such falls, including improving facilities, revising work practices and implementing various forms of training, but these initiatives have not reduced the number of injuries caused by falls.

To address this problem, in addition to existing measures, we have begun focusing on human factors, namely physical strength and dexterity. Specifically, we are advancing fall-prevention physical training as part of KAITEKI exercises and carrying out safety fitness tests to assess employees' fall risk. Beginning in fiscal 2017, we steadily began such initiatives across the company. At the plants that began such initiatives first, employee surveys and medical interviews found that the number of times employees reported having fallen in the past year had declined, and more than 60% of employees showed improvement in their fitness test results. Going forward, we will work to develop internal tools using IoT technologies to enhance the precision and continuity of these initiatives while looking for ways to increase the variety of exercises so that physically handicapped employees can readily take part. Through such measures, we are working to help employees of all ages develop the physical strength and skills to prevent falls.

Raising Health Awareness and Improving Lifestyle Habits

Adopting Health Support Tools That Use ICT/IoT

We have introduced i² Healthcare, a system to support employee health, as infrastructure to back up KAITEKI Health and Productivity Management. We are using the system as part of our initiatives to promote healthy lifestyle habits, seeking to increase health awareness and help employees improve their lifestyle habits.

To this end, we are loaning wearable activity-tracking devices to employees who request them. Fitting like a wristwatch, such devices allow users to monitor their physical condition, including heart rate and the amounts of exercise and sleep they are getting. Data collected from such devices are being used with the i² Healthcare system to enhance employee health.

Health Promotion Declarations by All Employees

To encourage each employee to be more aware of Self Wellness and Workplace Wellness, think about what they can do to enhance their own health and vigor at work, and take action, we have begun an initiative in which each employee makes a health promotion declaration in their own words.

■ Creation of Safe and Healthy Workplaces

|| Second-Hand Smoke Countermeasures

To reduce second-hand smoke in work environments as much as possible and create workplaces where all employees can work in good health and with peace of mind, we plan to ban smoking by employees at all company workplaces, including the head office and branches, effective April 1, 2020. At the same time, in consideration of the health of individuals from outside the company, local residents and employees' families, we will ban smoking during work hours even when employees are working outside company premises. We are currently advancing a range of preparations to this end.

Workstyle Reforms

■ Work Reform

By achieving radical innovations at the workplace level under the leadership of on-site managers, we are eliminating inefficiencies and freeing up time. By doing so, we aim to pursue more value-creating work and improve work-life balance. Corporate departments, such as human resources and administration, suggest guidelines for running meetings and preparing documents and e-mails. At the same time, we are supporting such work reforms by providing enhanced IT communication tools. We are advancing work reforms in coordination with the UPI20 company-wide productivity improvement initiative.

■ Proper Management of Working Hours

As part of workstyle reforms under KAITEKI Health and Productivity Management and to prevent excessive working hours and ensure compliance, MCC is working to appropriately manage working hours.

|| Eliminating Excessive Working Hours and Increasing the Paid Vacation Usage Rate

To accurately track actual working hours, our attendance system records when employees log on and off of the computers they use. This helps prevent discrepancies between actual and reported working hours.

We are also implementing awareness-raising activities, such as presentations for managers about the proper management of working hours, aimed at reducing overtime through self-directed work improvement in each department.

Furthermore, we are working to make it easier for employees to take time off using such programs as the refresh leave system¹ and by setting planned annual days off.² Furthermore, to support employees' self-directed social contribution efforts, we have established a volunteer leave system (up to five days per year) and donor leave system (as many days as needed).

1 Once a year, employees who take two or more consecutive annual paid vacation days can receive one additional day off on the following business day. Employees who have been with MCC for more than a year as of April 1 are eligible to use this system.

2 A system that makes it easier for daytime employees to use their annual paid vacation by designating certain days for everyone in the company to take off at once. Up to three days per year.

KAITEKI Health and Productivity Management

■ Promoting Flexible Workstyles

|| Remote Work System

In November 2017 we introduced a remote work system, enabling employees to work from home or elsewhere.³ Eligibility for this system is not limited to employees engaged in child care or nursing care; all daytime employees who have been with MCC for a year or more can use the system up to two days a week. We believe this system will benefit employees, helping to improve work-life balance and reduce the burden of commuting. Going forward, we are setting up satellite offices to create environments that facilitate more flexible workstyles.

³ The status of system implementation varies by location.

|| Overview of Leave Systems

MCC has established the following leave systems to enable employees to balance their work and private lives.

■ Main Leave Systems (Besides Child Care and Nursing Care Leave)

Leave to accompany a spouse on overseas assignment; volunteer leave with the Japan Overseas Cooperation Volunteers; fertility treatment leave

■ Livelihood Support Leave

Employees can accumulate up to 40 expired annual paid vacation days (which are valid for two years after being granted) as days they can use under the livelihood support leave system. These days can be used by employees if they are ill or injured, pregnant, engaged in nursing or child care, undergoing fertility treatment, victims of a natural disaster or volunteering.

■ Principal Special Types of Time Off

Bereavement/memorial service leave; marriage leave; menstrual leave; leave for employees directly affected by or unable to get to work due to a natural disaster; volunteer leave; donor leave; workplace transfer leave; home visit leave; refresh leave; jury duty leave; public service leave; maternity leave; paternity leave; nursing care leave

Respect for Human Rights and the Development of Diversity

Basic Policy

Mitsubishi Chemical (MCC) regards respect for human rights as the basis of its management and the development of diversity as part of its management strategy. MCC has established its Basic Policy on Respect for Human Rights and the Development of Diversity to focus efforts on these issues.

Basic Policy on Respect for Human Rights and the Development of Diversity

Within the MCC Group, all employees shall respect one another's diverse individuality and values, including nationality, race, religious beliefs, age, gender, sexual orientation and disability or lack thereof, and together fulfill the Group's corporate social responsibility. Building on this foundation, we aim to enable every individual in the Group to develop their abilities to the fullest.

Respect for Human Rights

In line with the Mitsubishi Chemical Holdings Group Charter of Corporate Behavior, we shall respect the dignity and rights of all people and shall not unfairly discriminate under any circumstances. Furthermore, each employee shall endeavor to correctly understand human rights and related issues and help create workplaces that realize KAITEKI and are free of discrimination and harassment.

Developing Diversity

In line with the Mitsubishi Chemical Holdings Group Charter of Corporate Behavior, we shall build organizations that take strength from diversity, in which each individual is aware of their role, strives to enhance their abilities as needed, and utilizes said abilities to the fullest to contribute to the creation of KAITEKI value. Furthermore, we shall endeavor to balance our work and personal lives and, by deepening dialogue and mutual understanding, create a workplace culture that is rich in drive and energy and that realizes KAITEKI.

To promote respect for human rights and diversity on a company-wide basis, we have established the Human Rights and Diversity Development Committee, chaired by the supervising officer in charge of Human Resources and comprising the chief operating officer of each business domain and corporate function domains. The members of this committee regularly monitor performance and discuss new initiatives as they implement PDCA cycles.

Respect for Human Rights and the Development of Diversity

Respect for Human Rights

The Mitsubishi Chemical Holdings (MCHC) Group has established the Mitsubishi Chemical Holdings Group Global Policy on Respecting Human Rights, Employment and Labor. In light of the Universal Declaration of Human Rights and United Nations Global Compact, MCC has adopted this policy as its action guidelines.

In addition to implementing the necessary employee education to ensure respect for individual dignity and rights, MCC forbids child labor and forced labor and strives to maintain proper working conditions. Through these efforts, MCC seeks to fulfill its corporate social responsibility to ensure that the rights of all its stakeholders are respected. We are now preparing to create a human rights due diligence system based on the United Nations Guiding Principles on Business and Human Rights.

Within the company, we maintain systems for dealing with human rights issues appropriately. Specifically, we are implementing a variety of educational and other initiatives, including rank-specific training and e-learning, aimed at deepening awareness and knowledge of human rights. In addition, we are promulgating a clear message of zero tolerance for harassment while working to improve awareness and mindsets. At each plant, we have appointed harassment counselors, to whom employees can go to seek help or guidance related to harassment or human rights issues.

Fiscal 2017 Human-Rights Related Training

	In-house training		Human rights slogans ¹
	Sessions	Participants	Slogans submitted
Mitsubishi Chemical	108	2,629	4,842
Group companies	324	6,415	8,388
Total	432	9,044	13,230

¹ To promote employee awareness of human rights, every summer we ask employees and their families to submit human rights-related slogans.

Enabling Women to Succeed

MCC is working to develop female managers, provide career development support for female employees, implement workstyle reforms and develop its workplace culture. We are also aiming to double the percentage of management positions (line manager or equivalent and above) held by women by 2021 from the 2017 level. MCC is implementing a range of initiatives to achieve these goals.

To develop female managers, the general manager of the HR & Organization Development Department meets with women who are not in line management positions and their supervisors to hear their opinions and requests and better understand where they are in their careers. Based on these meetings, we formulate and execute development measures. To provide career development support, we send employees to training programs organized by external organizations and offer training on various specific themes that is open to all. Through such initiatives, we are providing opportunities for employees to expand their perspectives and enhance their skills.

In coordination with the new Mitsubishi Chemical Women's Council (a company-wide project sponsored by the president and aimed at promoting the success of women), MCC is providing support to enable its female employees to achieve greater success as part of efforts to utilize its people's capabilities in line with its basic policy on promoting diversity. At the same time, we are building a foundation to ensure that women and all employees can succeed in their own ways by providing accurate evaluations and increasing awareness of flexible workstyles.

We have formulated the action plan below based on the Act on Promotion of Women's Participation and Advancement in the Workplace.

■ MCC's Action Plan

We have established the following action plan to support the development and success of female employees.

1. Plan Duration

April 1, 2017–March 31, 2021 (four years)

2. Numerical Target

Double the percentage of management positions (line manager or equivalent and above) held by women from the 2017 level

3. Initiatives

- (1) Implement systematic career development support for female employees
- (2) Develop female managers
- (3) Enhance educational opportunities for motivated employees
- (4) Implement workstyle reforms and develop workplace culture

Respect for Human Rights and the Development of Diversity

Balancing Work and Personal Lives

To effectively promote diversity and enable every employee to utilize their abilities, employees must be able to balance their work and personal lives. MCC supports its employees with numerous systems designed to meet the needs attendant to a range of life stages.

Initiatives Related to Child Care

In fiscal 2017, as part of a support program for employees using child care leave, we made pre-maternity leave meetings between employees and their line managers mandatory and, to facilitate an earlier return from child care leave, set up a “concierge service” to assist parents in finding and securing a spot in a daycare facility. As a safety net in case employees are unable to get a place for their child, we partnered with an external daycare facility near our head office (in the Marunouchi/Otemachi area) to secure a number of places for the company from April 2018. Through such measures, we have created an environment that helps employees return to work with confidence.

We have formulated the action plan below based on the Act for the Promotion of Measures to Support the Nurturing of the Next Generation.

MCC’s Action Plan

To facilitate balanced work and personal lives for employees and enable all employees to exercise their abilities, we have established the following action plan and are creating accommodating work environments.

1. Plan Duration

April 1, 2017–March 31, 2021 (four years)

2. Targets and Initiatives

Target 1: Create environments that facilitate the success of employees engaged in child care

- Monitor the usage of systems to support employees in balancing their work and personal lives as well as the results of related initiatives and share findings broadly with employees
- Provide support to help employees continue working and return to work smoothly and promptly after child care leave

Target 2: Develop a workplace culture that is supportive of employees balancing work and home responsibilities

- Foster increased understanding of company systems
- Respect employees’ diverse values and workstyles while creating a workplace culture in which each employee recognizes their role and can exercise their abilities to the fullest
- Reduce working hours
- Encourage the use of paid leave

Target 3: Carry out other initiatives to support the development of the next generation

- Provide opportunities for children to come into contact with workplaces, such as plant tours
- Foster understanding of the meaning of work among young people and provide work experience opportunities

Initiatives Related to Nursing Care

In recent years, enabling individuals to both work and perform nursing care duties for family members has become a major social issue. To find out more about employees' nursing care duties, we added questions about nursing care to the regular Employee Perception Survey conducted in autumn 2017.

To help solve issues identified through the survey, we created and distributed a support handbook on the topic of balancing work and nursing care. The handbook provides knowledge about preparing for nursing care and information on company support systems. The handbook also covers how to handle related requests or inquiries from subordinates and content intended to deepen understanding of related issues among workplace management-level supervisors.



Nursing care handbook (24 pages)



The "Tomonin" mark, created by the Ministry of Health, Labour and Welfare, can be used by companies that strive to ensure workplace environments that enable employees to balance work and nursing care.

Main Systems to Support Employees in Balancing Their Work and Personal Lives

- Temporary retirement for childcare: Until the April 30 after the child's third birthday
- Reduced work hours for childcare: Until the end of the child's third grade school year
- Injury/illness nursing care leave: Up to 10 days per year (can be used in half-day units)
- Temporary retirement for family care: One year per qualifying family member
- Reduced working hours for nursing care: Maximum two-hour reduction in working hours per day (as long as necessary)
- Reduced work days for nursing care: Maximum five-day reduction in working days per month (as long as necessary)
- Nursing care leave: Up to 20 days per year (can be used in half-day units)
- Life support leave (system for accumulating expired annual paid leave): Can be used for recovery from illness or injury, child care, nursing care, etc.
- Declaration of desired place of work: Allows employees to specify their desired place of work to accommodate family circumstances
- Temporary retirement for spouse's overseas service: Allows employees to take leave of up to three years to accompany their spouse on an overseas work assignment
- Fertility treatment leave: Allow employees to take leave of up to a total of one year for advanced fertility treatment that meets certain standards
- Remote work system: Employees whose work is suitable for telecommuting can do so up to two days a week
- Day care cost stipends
- Day care information service
- Nursing care stipends and financial support
- Home care worker stipend
- Establishment of external nursing care consultation points

Respect for Human Rights and the Development of Diversity

Support to Enable People with Disabilities to Exercise Their Abilities

MCC's basic policy is to ensure that the individuality of every employee, disabled or not, is respected and that all employees can thrive. In accordance with this policy, MCC is advancing initiatives to promote the hiring of people with disabilities and enable them to exercise their abilities. Each business site partners with special-needs schools and institutions to proactively provide work experience opportunities. We also strive to develop working environments that are accommodating to employees with disabilities and seek to retain such employees. Furthermore, we are advancing such initiatives as making toilets barrier-free, improving work-rooms to suit the needs of people with disabilities, and adopting flex-time and other flexible work systems.

In 1993, we established the special subsidiary Kasei Frontier Service, Inc., which mainly provides PC data entry and printing services, to help people with disabilities achieve growth by taking on work responsibilities and thus contribute to society. As of June 2018, said company had 72 employees with disabilities (of 102 total employees).

In June 2018, 2.08% of MCC employees were people with disabilities. At each site and at Kasei Frontier Service, we provide appropriate support for employees with disabilities and actively seek to hire such employees.

A Company Where People with and without Disabilities Work as One to Take on Ambitious Goals

Koji Nakano
Managing Director
Kasei Frontier Service, Inc.

At Kasei Frontier Service, Inc., although we provide both tangible and intangible accommodations to enable people with disabilities to thrive at work, we do not give such employees special treatment. This is because our aim is to be a company where people with and without disabilities work as one to take on ambitious goals.

In managing Kasei Frontier Service, we continually strive to make the company an organization we can be proud of as a team of human beings. To that end, it must be a company where anyone can work comfortably in a friendly but competitive environment. At the same time, as employees age, their circumstances and abilities change. Even so, we must cooperate and help one another to develop working environments that offer each employee the joy of working and a true sense of participating in and contributing to society.



Effective Placement and Human Resource Development

Basic Policy

At Mitsubishi Chemical (MCC), we aim to achieve our vision—realizing KAITEKI. To that end, we strive to secure and retain human resources who are understanding of diverse values, identify issues on their own, and involve those around them as they continually take on new challenges.

Hiring

We do not hire individuals younger than 18 years old, and practice fair, non-discriminatory hiring.

Specifically, hiring managers who interview perspective employees are instructed to conduct interviews in a manner that respects human rights by not asking questions related to nationality, religion, gender, sexual orientation, disability, pregnancy, or other topics unrelated to the applicant's suitability and capabilities.

Effective Placement and Human Resource Development

We aim to realize optimal personnel placement on a Group-wide basis to meet the demands created by changes in the business environment and globalization. To this end, we have also adopted a career development program—a system for medium- to long-term strategic personnel placement and development with the aim of encouraging employees to pursue self-directed growth. The specifics of these efforts are as follows.

For employees of MCC in Japan, as a part of personnel measures designed to encourage employees to think about their careers, we conduct career design interviews. Such interviews involve an employee and their supervisor discussing the employee's current situation and how said employee plans to grow over the medium to long term. This approach is designed to help employees take the initiative and grow. Each employee works to identify their own strengths and consider for themselves how they can hone and utilize those strengths to contribute to society. At the same time, the company systematically examines ways to utilize and enhance each individual's strengths in order to achieve corporate growth.

Across the entire MCC Group, including overseas sites, we are working to effectively place and develop promising human resources in each region¹ and the next generation of executive management candidates for the MCC Group.

With regard to promising human resources in each region, the regional headquarters² established in April 2017 implement systematic human resource development and placement within their respective regions. At the same time, regarding the next generation of executive management candidates, we are working with the regional headquarters to implement unified global management, identifying key positions and preparing succession plans for them as well as monitoring the placement of management candidates who are expected to fill such positions in the future. The company-wide HR Committee convenes on a regular basis to manage such efforts. Furthermore, we are applying these initiatives across the entire MCC Group, including overseas companies, working to implement more systematic and effective human resource development and placement.

1 Refers to the four regions that the MCC Group has designated as its units for global business development, namely the Americas; Europe, the Middle East and Africa; the ASEAN region, India and Australia; and China and Hong Kong.

2 Regional headquarters: The following four companies, established to accelerate Mitsubishi Chemical's overseas business development by supporting business and revenue growth in their respective regions.

- Mitsubishi Chemical America, Inc.
- Mitsubishi Chemical Europe GmbH
- Mitsubishi Chemical (China) Co., Ltd.
- Mitsubishi Chemical Asia Pacific Pte Ltd.

Effective Placement and Human Resource Development

Human Resource Development System

MCC believes that on-the-job training—learning through actual, on-site work experience—is the foundation of employee growth. We expect on-the-job training to lead employees to grow autonomously through the process of identifying issues in the course of their ordinary work and solving said issues with support from those around them.

To support and reinforce this process, we have introduced measures that enable employees to proactively design their own careers. We also maintain an off-the-job training program that enables employees to learn how to fulfill their expected roles.

Furthermore, we organize training programs according to five perspectives that are based on business, work-place and individual needs. These are the junior employee development perspective, management perspective, global perspective, skill and specialist knowledge perspective and career perspective. Using such training programs, we support the growth of each employee while encouraging self-directed career development.

Participants	Management perspective Junior employee development perspective	Career perspective	Global perspective	Skill and specialist knowledge perspective			MCHC Programs
				Conceptualization skills	Interpersonal skills	Business execution skills	
Supervisors	New supervisor training	Career design interview training (for interviewers)	TOEIC Global business (S) training Overseas survival training Overseas business challenge training English skills training (BEST)	Logical thinking training Document preparation training Problem solving training	Communication style training Consensus building training Situational leadership training	Presentation training Time management training External courses/Correspondence and online courses/ Qualification attainment support system (self-improvement)	U.S.-related seminar Understanding cultural differences in China seminar China business training Business model training
Managers	Practical management training II Practical management training I New manager training						
Career group Professional career group	Management basics training I Management basics training II						
	Third year training (General career group)						
	Second year training (General career group)						
	New employee training (General career group)						

At the same time, Mitsubishi Chemical Holdings (MCHC) holds such programs as Group New Executive Training. The MCC Group actively sends its employees to participate in these programs, which offer opportunities for them to develop themselves through friendly competition within the MCHC Group.

Global Executive Development

The MCC Group is forcefully globalizing its management structure. To encourage the development of the human resources needed to handle global management, we are carrying out a range of training and other programs in and outside Japan.

The development of globally oriented management personnel requires the cultivation of global mindsets and amassing of global experience. To this end, we offer programs to develop global mindsets in Japan as well as overseas dispatch programs, including the Overseas Business Challenge Training, which combines foreign language training with internship programs at overseas Group companies, and the Overseas Survival Training, in which participants work to solve problems in a multicultural environment. By providing opportunities to gain global experience tailored to the specific level of each individual, we are working to develop globally oriented management personnel.

Furthermore, for employees of Group companies who work at overseas sites, we have introduced a program called "Experience JAPAN," in which they can come to Japan for around a year. By providing work experience in Japan, this program enables such employees to learn about Japanese culture, the particular characteristics of Japanese companies and Mitsubishi Chemical while promoting mutual understanding between such employees and those based in Japan, fostering a sense of unity across the MCC Group.

Labor-Management Relations

Labor-Management Relations Based on Mutual Trust

After the former Mitsubishi Chemical, Mitsubishi Plastics and Mitsubishi Rayon, merged in April 2017 to create the new Mitsubishi Chemical, the three former companies' existing labor unions at first continued to operate in parallel. However, in April 2018, the Mitsubishi Chemical Workers Union, MITSUBISHI PLASTICS LABOR UNION and MITSUBISHI RAYON UNION combined to form the new Mitsubishi Chemical Workers Union.

Because Mitsubishi Chemical and Nippon Kasei Chemical merged in April 2018, the Mitsubishi Chemical Labor Union and Nippon Kasei Chemical Rodo Kumiai currently exist in parallel. Mitsubishi Chemical is working to build labor-management relations based on mutual trust with the two labor unions through such means as holding meetings that bring management and the unions together to exchange opinions and by maintaining close dialogue.

Together with Communities and Society

Basic Policy

In line with the Mitsubishi Chemical Holdings Group Corporate Citizenship Activities Policy, the Mitsubishi Chemical (MCC) Group provides not only monetary and material support, but contributes to actual activities (providing human support) in such areas as creating an inclusive society, fostering the development of the next generation, protecting the global environment, communicating with local communities and disaster support.

Mitsubishi Chemical Holdings Group Corporate Citizenship Activities Policy

The Mitsubishi Chemical Holdings (MCHC) Group strives to deepen its understanding of the culture and customs of the communities and countries where it operates and to contribute to society through its businesses. Furthermore, as a good corporate citizen, the MCHC Group works to meet the demands and expectations of society and communities and realize KAITEKI.

Approach

- Conduct corporate citizenship activities in communities and countries where we operate from a viewpoint of sustainability [Green], 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 in their volunteer activities.

Social Contribution Activities

Creating an Inclusive Society

In April 2017, MCC signed an agreement to become an official partner of the Japanese Para-Sports Association (JPSA), as it agrees with JPSA's mission of creating a vibrant, inclusive society.

At JPSA sporting events, employees volunteer (operating reception, setting up facilities, etc.) in addition to watching and cheering the matches. We also hold internal Boccia competitions, actively promoting understanding of parasports among employees. By helping to further spread and develop such sports, MCC seeks to contribute to the realization of an inclusive society that is healthy, both physically and mentally, and where each individual's individuality is respected.

Fostering the Development of the Next Generation

The MCC Group holds chemistry experiment workshops at various locations, aiming to spark an interest in chemistry and science among children, who represent the next generation. Furthermore, by performing chemistry experiment shows for children at events held by the Yume Kagaku-21 Committee, we actively support the committee's activities. (The Yume Kagaku-21 Committee comprises the Chemical Society of Japan; Society of Chemical Engineers, Japan; Japan Association for Chemical Innovation; and Japan Chemical Industry Association.)



May 2017 Japan Para Wheelchair Rugby Championship



October 2017 internal Boccia competition (head office)

Together with Communities and Society

Protecting the Global Environment and Communicating with Local Communities

The MCC Group enthusiastically carries out woodland conservation and local area and waterway cleanup activities. For example, we participate twice a year in Tokyo Greenship Action, under which the Tokyo Metropolitan Government, NPOs and companies work together to maintain nature conservation areas in Tokyo. Furthermore, we participate in local events, invite local residents to events at plants, and open our sports fields and athletic facilities to the public. We also proactively host tours for students as part of ongoing efforts to communicate with local communities.



June 2018 Tokyo Greenship Action



April 2018 Asakura River clean-up activities (Toyohashi Plant)



November 2017 Plant tour for students of Nagahama City Nagahama-Kita Elementary School (Shiga Plant)

Disaster Support

In and outside Japan, MCC provides monetary and material donations to areas affected by natural disasters, such as hurricanes Harvey and Irma, which struck the United States in August 2017, and the devastating flooding in West Japan in July 2018.

Furthermore, we actively provide human support. For example, we backed employee volunteer activities carried out in partnership with an NPO to aid recovery after the July 2018 flooding.

As part of efforts to support recovery in Japan's Tohoku region, since 2013, the MCHC Group has held an annual market featuring local specialty products from Iwate, Miyagi and Fukushima prefectures. Beginning in 2017, we also carried out a project in which high school students directly sell products they develop and manufacture themselves using locally produced goods. Going forward, we will continue to support recovery directly and the recovery initiatives of Tohoku residents.



July 2018 Volunteers in areas affected by floods (Mizushima Plant)

Collaboration with Industry, Academic and Governmental Partners

Basic Policy

Based on Mitsubishi Chemical Holdings Corporation's medium-term management plan, we are working to effectively use internal and external technological resources to expand and deepen our existing technologies, accelerate the development of current and new technologies, and thus contribute to the creation of highly profitable new businesses. To achieve this, we are implementing measures in the following three areas.

1. Open Innovation through Collaboration with Industry, Academic and Government Partners

By strategically collaborating with external research institutions, we are strengthening and expanding our organizational research capabilities, thereby increasing our odds of success in R&D and shortening R&D lead times. We are also striving toward disruptive innovation, which is difficult to achieve through internal R&D alone. Furthermore, by using external R&D resources with untapped potential, we are working to identify and create research themes that will lead to new businesses.

2. Integration with Our Technology Platform

By integrating the proprietary technologies (our technology platform) that we have developed through our wide-ranging and diverse businesses and research with technologies and expertise secured through external collaboration, we are creating differentiated products and services.

3. Globalizing Research and Development

By closely collaborating with institutions in and outside Japan that boast cutting-edge technologies and innovative potential, we are maintaining and enhancing the international competitiveness of our R&D and thus continuously developing world-leading products. To this end, we are promoting and expanding joint research and personnel exchange, principally in Japan, the United States, Asia and Europe, working to build a global R&D network. At the same time, we are recruiting and developing globally oriented leaders with the ability to take a broad, global perspective, provide KAITEKI Value and effectively communicate information in an ever-changing, diverse society.

Collaboration in Fiscal 2017

1. United States

- Comprehensive partnership with the University of California, Santa Barbara (UCSB), to develop advanced functional materials
- Partnership with Georgia Institute of Technology to develop photoelectric materials

2. China

- Comprehensive partnership with Dalian University of Technology for organic synthesis and process development

3. Europe

- Partnership with the Swiss Federal Institute of Technology in Lausanne for polymer development

4. Japan

- Summer internship program for students of the University of Tokyo Graduate School of Engineering Department of Chemical System Engineering ("Todai Practice School")
- Partnership with the National Research and Development Institute for Materials Science (NIMS) for functional inorganic materials development and materials informatics
- Evaluation of organic devices as a member of Chemical materials Evaluation and REsearch BAse (CEREBA)

Company Data (Social)

Employee Composition

Employees Working at Mitsubishi Chemical

By gender		By employment type		By age group	
Male	11,491	Open ended	12,459	29 or younger	1,890
Female	1,834	Fixed term (rehired retirees, contractors)	767	30 to 39	3,276
		Other (part-time, etc.)	99	40 to 49	4,180
				50 to 59	3,237
				60 to 69	729
				70 to 79	4

Total: 13,325

As of April 2018

Employees Employed by Mitsubishi Chemical

By gender		By employer		Average age
Male	14,527	Mitsubishi Chemical	13,105	43.5
Female	2,366	Group companies	3,788	
		Auxiliary organizations		

Total: 16,893

As of April 2018

Managers Employed by Mitsubishi Chemical

Male	4,730 (94%)
Female	303 (6%)
Total	5,033

As of April 2018

Total Working Hours

Average total annual working hours	1,995 hours
Average monthly overtime pay	¥44,988

Year ended March 31, 2018

New Hires to Mitsubishi Chemical

Male	241 (87%)
Female	36 (13%)
Total	277

Individuals hired during the regular annual hiring period, whose employment began April 1, 2018 (includes individuals other than new college graduates).

Paid Time Off Usage

Paid time off usage rate	68.5%	
Employees who used maternity leave	77	
Employees who used child care leave	Male	13
	Female	151

Year ended March 31, 2018 (except for the paid time off usage rate, which is for the year ended December 31, 2017)

Employment of People with Disabilities

Full-time positions held by employees with disabilities	356.0
Total number of employees used to calculate the percentage of employees with disabilities	17,119.5
Percentage of employees with disabilities	2.08%

As of June 1, 2018

Employee Union Membership Rate

65.4% (As of March 31, 2018)



About Mitsubishi Chemical

Company Overviews

The current Mitsubishi Chemical Corporation was formed on April 1, 2017 through a merger with Mitsubishi Plastics, Inc. and Mitsubishi Rayon Co., Ltd. As of March 2018, Mitsubishi Chemical Corporation and its 358 Group companies operate in business areas that include performance products and industrial materials.

Company Name	Mitsubishi Chemical Corporation
Address	Palace Bldg., 1-1 Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-8251, Japan
Founded	August 31, 1933
Established	April 1, 2017
Paid-in capital	¥53,229 million
Businesses	Performance products, industrial materials and others.
Sales revenue (consolidated)	¥2,548.1 billion (fiscal 2017)
Employees (consolidated)	40,290 (as of March 31, 2018)

As of April 1, 2018

Business Domains

By providing solutions to issues related to people, society and the Earth, Mitsubishi Chemical is accelerating the growth of its businesses. As challenges in such areas as the intensification of climate change, uneven distribution of water resources, growing and graying populations, and food and agriculture continue to emerge and evolve, the company's business domains related to each will work together to create new value and provide comprehensive solutions.

Social Issues Mitsubishi Chemical Is Addressing

- Efficient use of resources and energy
- Climate change (reducing CO₂)
- Securing clean water resources
- Food and agriculture problems
- Health maintenance and disease treatment
- Developing a smart society

Business Domains

- Petrochemicals
- Carbon
- MMA
- Advanced Polymers
- High Performance Chemicals
- Electronics & Displays
- High Performance Films
- Advanced Moldings & Composites
- Environment & Living Solutions
- New Energy



<https://www.m-chemical.co.jp/en/>