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Printed on paper made with wood from forest thinning. "Morino Chonai-Kai" (Forest Neighborhood Association)-Supporting sound forest management.

CSR Report 2012

MITSUBISHI GAS CHEMICAL COMPANY, INC.

Contents

Responsible Care

At every stage of their operations, companies dealing with chemicals must ensure that the environment, safety and health are safeguarded. This starts with the development and manufacturing of chemicals, and goes all the way through to distribution, use and final disposal after consumption. It also involves publishing the results of those activities, being engaged and willing to communicate with society. The chemical industry refers to this conscientious activity as Responsible Care (RC).

Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

About this Report

The purpose of the 'CSR Report 2012' is to provide information related to the various activities carried out by Mitsubishi Gas Chemical Company, Inc. (MGC) in the area of Responsible Care (RC), the steps it is taking to improve corporate ethics and compliance, and to report our relations with our many stakeholders in addition to broadly promoting our (CSR) activities.

MGC began producing an environmental report in 2001. In 2007, the report was renamed the RC Report, and it continued to provide details about company activities related to the environment and safety. Starting in 2010, we are changing this report to the CSR Report to reflect our wide-ranging efforts in the area of Corporate Social Responsibility. As a result, you will find that this year's report provides a much broader selection of information.

We have put great effort into making this report easy to understand, and look forward to your honest opinion and feedback.

Scope of this Report

Organizations included

All offices in Japan. In the case of MGC Group companies, proper reference will be made where necessary.

Reporting period

April 1, 2011 through March 31, 2012 (includes some activities after April 2012).
However, Responsible Care (RC) activities are included from 1 January, 2011 – December 31, 2011 (includes some RC activities in 2012).

Reference Guidelines

Ministry of the Environment, "Environmental Reporting Guidelines (2007)"
Ministry of the Environment "Environmental Accounting Guidelines 2005"
Global Reporting Initiative (GRI)
"Sustainability Reporting Guidelines Version 3.0"

Publication Information

Date of publication: November 2012
Date of next scheduled publication: October 2013

Disclaimer: This report contains past and present facts, in addition to information about expectations regarding social conditions, management plans and policies of the company together with anticipated results. These assertions or assumptions are based on the information available at the time of drafting, however unforeseen circumstances may lead to unexpected social conditions or result in changes to business activities which are different to those expressed here.

Message from Our President & CEO

FY 2011 was a year in which Japan's economy was beset by several trials. While the MGC Group recovered its workplaces damaged by the Great East Japan Earthquake more quickly than expected, from the middle of the year we were hit by large-scale natural disasters such as the flooding in Thailand, as well as global economic anomalies spurred by the strong yen and the deepening European financial crisis. Due to these factors, we were unable to meet the target values for the final fiscal year of our MGC Will 2011 medium-term management plan. The current term also holds cause for concern, including the prolonged European crisis and economic slowdowns in the US and China.

As the outlook clouds for the global economy, our Group has launched its new MGC Will 2014 medium-term management plan to move toward the ideal for ourselves that we envision for 2021, the 50th anniversary since our foundation. We are making no changes to our management concept of "making contributions toward development in harmony with society through the creation of a diverse range of value based on chemistry," nor to our Group vision of "The MGC Group aims to thoroughly realize CSR goals in all its activities while developing and growing sustainably on the global stage as a highly differentiated, widely recognized chemicals group operating from a strong platform of proprietary technology." As a chemical manufacturer acting under the principle of sustainable development, we must always conduct our business activities with consideration given to their impact on future generations. In addition, we recognize that our Group's mission and reason for being lie in continually providing customers with original and highly functional materials that accurately capture society's needs.

In this way, even as severe changes unfold throughout the world, by holding an unwavering course in our management we will make efforts to raise our presence within society, as a company deemed truly necessary by our stakeholders.

It is our pleasure to issue our CSR Report again this year. In FY 2011 we continued to respond appropriately to regulations while striving to make improvements that include improved unit energy consumption, chemical and product safety, and logistical safety, as well as reduced emissions of greenhouse gases and wastes. In the areas of occupational health and safety as well as process safety and disaster prevention, our company as a whole is working to strengthen our on-site capabilities toward the goal of zero accidents and zero occupational injuries. These activities and their achievements are detailed in "Responsible Care (RC) Activities" in this report (p. 17).

We are also making all-out efforts to meet the demands of the era in addressing corporate governance, compliance, and risk management. In particular, we drew upon the lessons of the Great East Japan Earthquake to review our BCP (business continuity planning) for large-scale natural disasters and to boost the effectiveness of our plans.

In this way, we believe that working through the PDCA cycle to effect continual improvements with respect to each of these issues forms the essence of CSR activity. Together with our stakeholders in Japan and abroad, MGC will continue making efforts to raise its presence within international society as a company indispensable to the realization of a sustainable society.

We hope that everyone reading this report will gain a deeper understanding of the MGC Group's CSR activities. We welcome your honest opinions and suggestions.

K. Sakai

Kazuo Sakai
President
September 2012

To Continue Providing the Technology and Products That Help People Increase Their Quality of Life While Supporting the Sustainable Development of the Global Community.

Corporate Information (as of March 31, 2012)

Company name
MITSUBISHI GAS CHEMICAL COMPANY, INC.
Corporate Logo MGC

Head office address
Mitsubishi Building, 5-2 Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8324, Japan

Established January 15, 1918

Incorporated April 21, 1951

Capital ¥41.97 billion (as of the end of March, 2012)

Number of employees
2,371 (non-consolidated), 5,216 (consolidated)

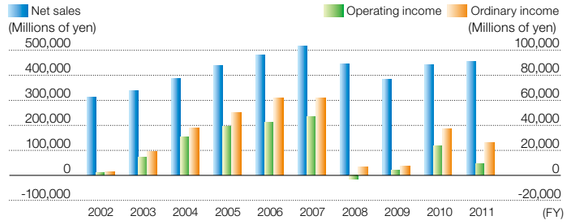
Number of consolidated subsidiaries 40

Main business sites in Japan
Branches Osaka branch
Overseas offices Shanghai Office, Taiwan Office
Research institutes
Tokyo Techno Park (Tokyo Research Laboratory, MGC Chemical Analysis Center), Niigata Research Laboratory, and Hiratsuka Research Laboratory
Plants
Niigata Plant, Mizushima Plant, Kashima Plant, Yokkaichi Plant, Yamakita Plant, Naniwa Plant, and Saga Plant

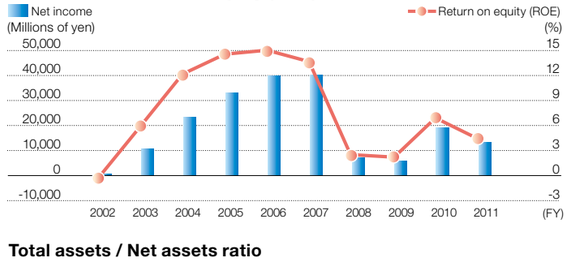
Tokyo Techno Park (TTP), an urban research and development center responsible for the study of specialty chemicals and advanced materials.

Financial highlights (Consolidated)

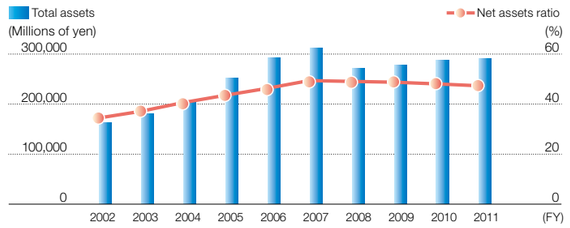
Net sales / Operating income / Ordinary income



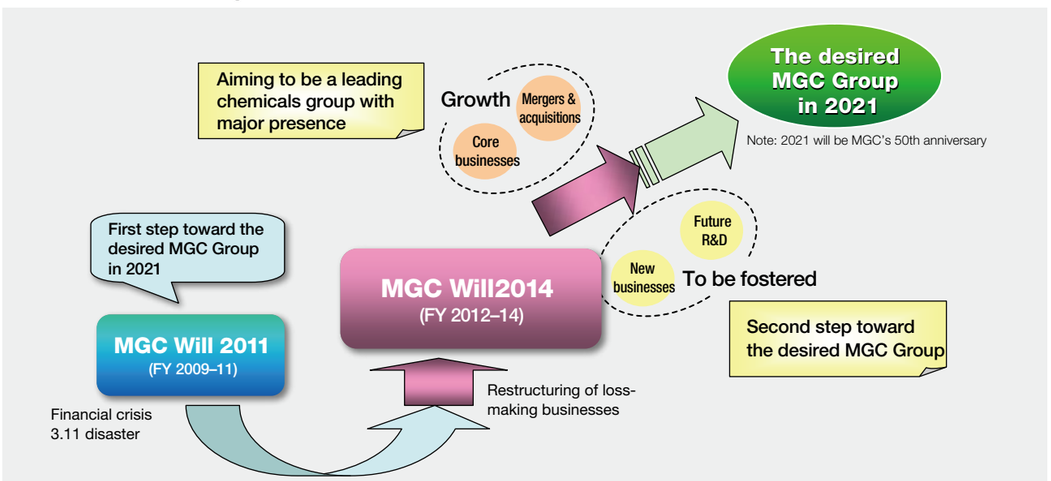
Net income / Return on equity (ROE)



Total assets / Net assets ratio



New Medium-Term Management Plan “MGC Will 2014”



Major Products and Business Lines—Six businesses operated by four companies

Natural Gas Chemicals Company

Includes a wide product lineup, spanning from chemical materials such as methanol, ammonia and their derivatives to CoenzymeQ10 made using biotechnology. Also involved in the exploration and drilling of petroleum and natural gas, as well as geothermal development, which is receiving attention as a clean energy.

Major products
Methanol, Formalin, Methanol synthesis catalyst, Ammonia, Amine, Polyol, Methyl methacrylate, Dimethyl ether (DME), Catalase, CoenzymeQ10

Aromatic Chemicals Company

Develops aromatic products centered on the metaxylene chain, including aromatic aldehydes and aromatic polycarboxylic acids, which are used as intermediates in pharmaceuticals, agrochemicals and fragrances, monomers, and additives. One of our core products, Nylon-MXD6, is a resin with gas barrier properties that is made from metaxylene and contributes to lighter containers and to preservation of freshness in foods and beverages.

Major products
Metaxylene, Metaxylenediamine, Nylon-MXD6, Aromatic aldehydes, Aromatic polycarboxylic acids, Purified isophthalic acid (PIA), Plasticizers

Specialty Chemicals Company

Based on the hydrogen peroxide chain, which has a low environmental impact and offers diverse functions in applications including bleaching, sterilization, oxidation, and metal polishing, we are developing a range of products from industrial-use hydrogen peroxide to chemicals for use in the electronics industry and environmental agents. We are also involved in resinous material for functional thermal curing, including monomers for high refractive index plastic lenses and photoresist monomers.

Major products
Hydrogen peroxide, Chemicals for use in the electronics industry, Persulfates, Organic titanates, Water treatment agents, Environmental agents, Monomers for high refractive index plastic lenses, Adamantane derivatives

Our development is focused on engineering plastics with mechanical strength and heat resistance, such as polycarbonate and polyacetal, which contribute to lighter weight in automotive and machine components as replacement materials for metals. Special polycarbonates for optical and other applications, as well as polycarbonate sheets (film) using our strengths in surface coating technology, are another area of development.

Major products
Polycarbonate Iupilon®, Polyacetal Iupital®, High-performance Polyamide MXD6 Reny®, Polycarbonate sheet Iupilon® sheet, Special polycarbonate Iupizeta®

Information & Advanced Materials Company

We are expanding this business with a focus on laminate materials for printed circuit boards and entry sheets used in mechanical drilling of printed circuit boards, and are putting efforts into halogen-free environmental materials. Our BT-related materials for printed wiring board are the pioneer of plastic semiconductor packages, contributing to higher-density semiconductors.

Major products
Laminate materials for printed circuit boards (epoxy-related materials, BT-related materials), entry sheets (“LE sheets”) used for the mechanical drilling of printed circuit boards

Expanding the business with a focus on oxygen absorber AGELESS® which was developed based on the idea to create an oxygen-free packaging environment that prevents food deterioration by oxidation. Currently it is not only used for preserving food freshness but also in other areas as a total solution for maintaining quality, including for pharmaceuticals, medical devices, electronic/metal parts, and important cultural assets.

Major products
Oxygen absorber AGELESS®, PharmaKeep®, RP System®, anaerobic cultivation system AnaeroPack®, desiccant AGELESS DRY®

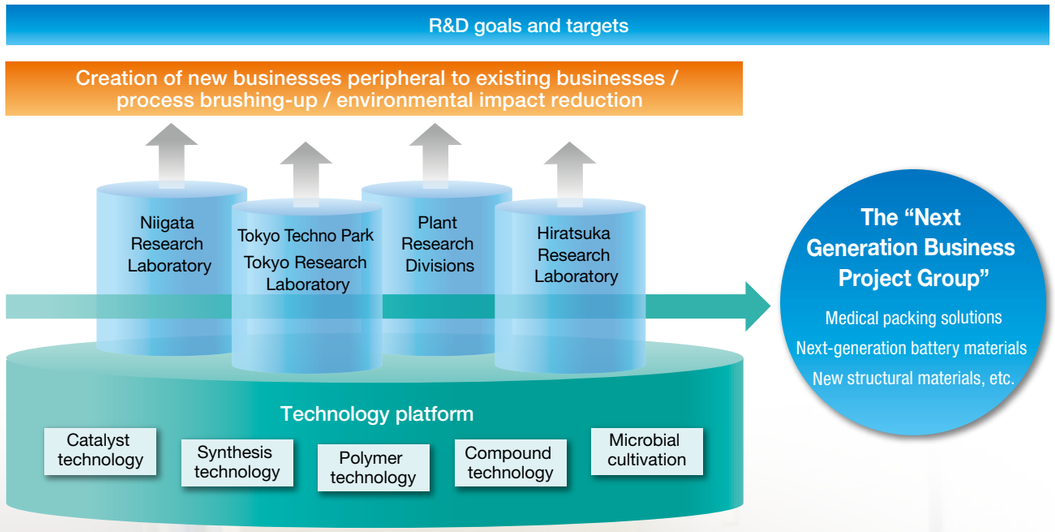
We will Accelerate the Creation and Nurturing of New Businesses Through the Next Generation Business Project, Which Concentrates the Resources of MGC.

R&D Strategy

Our philosophy for being is stated as follows: “MGC contributes to societal growth and harmony by creating a wide range of value through chemistry.” On this foundation, we position research and development as an important means of becoming a distinctive and excellent chemical company. Under this concept, MGC will hand down a corporate culture that values original technology and will continue answering the needs of society.

In our existing businesses, MGC is utilizing its technology platform to advance research and development into methanol and xylene derivatives, a wide variety of engineering plastics and their processed products, product groups using hydrogen peroxide to reduce environmental load, the oxygen absorber that revolutionized food distribution, and more.

We have also launched development under the Next Generation Business Project, which concentrates our internal resources. Through the Next Generation Business Project we are working on the environmentally conscious products and technologies that will contribute to future society, including new structural materials, next-generation battery materials, and medical packing solutions.



Research and Development Sites and Structure

MGC’s research and development sites comprise three laboratories, plant research technology sections, and development and technology centers, each of which carries out research related to its overseeing company. Research and development is divided into Company R&D and Corporate R&D. Company R&D assesses changing market needs, and brings research and development divisions, manufacturing, and marketing together to undertake research and development in line with companies’ business strategies. Corporate R&D aims to create core technologies from a mid- to long-term perspective, with the Next Generation Business Project as its main activity.

The MGC Analysis Center performs analysis and safety testing for the entire company.

Research and development sites	Company R&D				Corporate R&D
	Natural Gas Chemicals Company	Aromatic Chemicals Company	Specialty Chemicals Company	Information & Advanced Materials Company	Corporate Division (Next Generation Business Project Group, etc.)
Tokyo Research Laboratory			●	●	●
Niigata Research Laboratory	●	●			●
Hiratsuka Research Laboratory	●	●			●
Niigata Plant R&D Department	●	●			
Mizushima Plant R&D Department	●	●			
Yokkaichi Plant R&D Department			●		
Yamakita Plant R&D Department			●		
Kashima Plant R&D Department			●		
Electronics Materials R&D Center				●	
Oxygen Absorbers Techno Center				●	
MGC Chemical Analysis Center	●	●	●	●	●

Tokyo Techno Park

Gathered into one place, three research and development divisions and the Analysis Center cooperate and share information in the performance of research and development. Tokyo Techno Park also explores the new themes that will carry MGC into the future, centered on development of functional materials and research into applied technologies for existing products.

Niigata Research Laboratory

The Niigata Research Laboratory conducts distinctive research activities that contribute to the realization of a sound and prosperous society and to environmental conservation. Research focuses on chemical product and process development using catalysts and high-pressure reaction technology, and the development of high value-added products using biotechnologies such as continuous culture of microorganisms and recombinant DNA technology.

Hiratsuka Research Laboratory

The Hiratsuka Research Laboratory focuses its research on development of polymer materials and applied processing technologies. The Laboratory’s research and development covers an extensive range, from development of new high-performance polymers and development of applications and technical services for existing products, to basic research, new product development, application development, and technical support.

Close up

MGC's Environmentally-Conscious Products and Technologies, Born from the Challenge of Creating New Technologies and Values.

Looking toward the future, MGC is continuing its challenge of creating new technologies and values that contribute to society. Several examples of environmentally conscious products and technologies born from that challenge are introduced below.

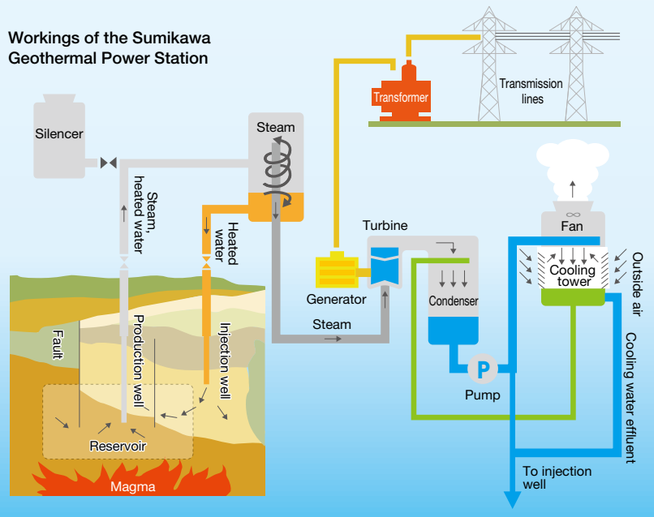
Geothermal power generation

Geothermal power generation harnesses steam separated from ground water heated by magma deep underground. As a volcanic country, Japan is blessed with such geothermal resources. Together with Mitsubishi Metal Corporation (now Mitsubishi Materials Corporation), MGC began geothermal surveying in 1981 at the Sumikawa district of Mount Hachimantai, in Kazuno City, Akita Prefecture. In 1990, a concurrent production test on the drilled steam production well revealed steam production capability meeting the 50,000 kW power generation initially planned. Subsequently, we constructed the Sumikawa Geothermal Power Station together with Tohoku Electric Power Co., and since 1995 have been operating the plant.

Geothermal energy is an important domestic energy source for resource-poor Japan, and is also a sustainable, renewable energy source presenting no concerns over depletion as with fossil fuels. Using steam produced underground, geothermal power generation is a clean, natural energy source with the lowest lifecycle CO_2 emissions after hydroelectric power generation, allowing it to contribute to the reduction of greenhouse gases.

Geothermal steam production equipment at Sumikawa

Workings of the Sumikawa Geothermal Power Station



Clean energy

Geothermal power generation

A form of clean energy that uses the heat from magma, geothermal power generation creates electricity from steam produced underground and features the lowest lifecycle CO_2 emissions after hydroelectric power generation.

Dimethyl ether (DME)
This clean fuel does not release particulate matter or SOx when burned, making it widely applicable to portable gas stoves, automobiles, power plants, and so on.

Methanol fuel cells (DMFC) and next-generation battery materials
MGC is developing a portable outdoor power source that uses a methanol-water solution as fuel. We are also engaged in development of next-generation battery materials.

Soil purification

Mild Fenton method
We provide soil purification technology that decomposes organic substances under neutral conditions in combination with hydrogen peroxide and catalyst.

Air purification

DEOPOWER (deodorizer)
As a measure against the offensive odor from the sludge and drainage tanks around dehydrators and hoppers, we provide deodorizers that quickly break down hydrogen sulfide and mercaptan.

Scrubber chemicals
We contribute to the purification of polluted air through specialized chemicals for circulating water in scrubbers.

Water purification

Protection against corrosion with water treatment agents
We provide water treatment agents for circulating cooling water systems such as air-conditioning equipment piping, contributing to reduced water use and the prevention of performance degradation.

Treatment of effluent and polluted water with environmental chemicals
We remove the oils, fluorine compounds, causative agents of COD, coloring ingredients, and other contaminants contained in wastewater generated by industry.

Plant-derived raw materials

LEXTER™ biomass plastic

We have succeeded in the development of plant-derived nylon, launched in the market as LEXTER™.

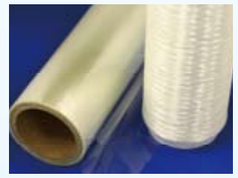
New plastics from plant-derived raw materials (in development)
As a resin material manufacturer, we are also actively promoting development of resins other than LEXTER™ that are made from plant-derived raw materials.

LEXTER™ biomass plastic

In order to prevent global warming, there has been accelerated efforts in the development of plastics made from plants instead of petroleum. MGC has successfully developed LEXTER™, a biomass plastic made from MGC's special monomers and sebacic acid derived from the alkaline fusion of castor oil, itself processed from the castor oil plant.

LEXTER™ not only reduces petroleum usage through its use of plant-derived raw materials, but also exhibits high strength, low water absorption, ease of processing, and other excellent properties in comparison to conventional plastics. Areas in which LEXTER™ can be used include automotive, electrical, and electronic components, and structural materials. Parts conventionally made with metal can be switched to plastic through the use of LEXTER™, achieving lighter weight in final products. This in turn can contribute to energy conservation and reduced CO_2 emissions through improved fuel efficiency in automobiles and motorbikes, and in aircraft or trucks during transportation of products.

Plant seeds, the raw material for LEXTER™



LEXTER™

Energy saving and CO_2 reduction through lighter products

lupilon® (polycarbonate resin)
lupilon® is the most widespread engineering plastic, used in home appliances, devices, machinery, building materials, and other applications as an alternative to metal and glass.

lupital® (polyacetal resin)
lupital® is an engineering plastic that excels in friction resistance and weather resistance, and is widely used in applications such as machinery parts and automobile interiors.

Reny® (High-performance polyamide resin)
An engineering plastic proprietary to MGC, Reny® is used in applications including machinery parts and automobile parts.

Reduction of environmental risk

Hydrogen peroxide
The bleaching of paper and pulp is increasingly shifting to chlorine-free bleaching processes that use environmentally low-impact hydrogen peroxide.

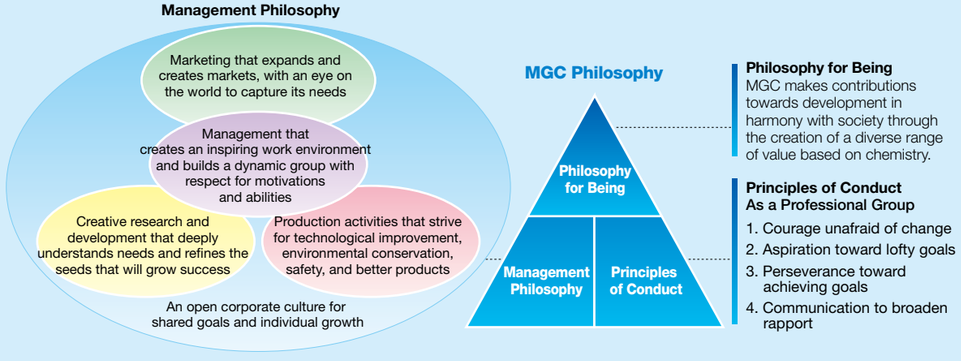
Printed circuit boards
We are actively advancing the development of heat-resistant materials for printed circuit boards suitable for lead-free solder and printed circuit board materials without brominated flame retardant.

MGC's Efforts in CSR

In October of 1991 we established "MGC Philosophy for Being," and in December of 1997 the "MGC Corporate Behavior Guidelines," as a guide for our company to gain the trust and understanding of society and to lead our employees to foster confidence and pride in working for MGC. In November 2007, we undertook a major revision of the "MGC Corporate Behavior Guidelines" to carry out a more assertive Corporate Social Responsibility (CSR) action and ensure MGC's continued development as a healthy company.

In addition, we are committed to the CSR activities based on our medium-term plan—MGC Will 2014—launched in 2012.

MGC Philosophy



MGC Corporate Behavior Guidelines

Mitsubishi Gas Chemical Company, Inc. ("MGC," "the Company" or "we") aims to be a company that acts with sound judgment and maintains the trust and understanding of society. The Company operates under six behavioral principles, presented and explained below, and will share knowledge of these principles widely throughout Group companies.

Senior managers recognize that it is their role to embody the spirit of these principles, and while ensuring that they have a full understanding of the necessary information inside and outside the Company, they will take the initiative to promote a high level of corporate ethics, and strive to develop and operate an effective framework for this purpose through the internal control system. Furthermore, if an incident takes place in contravention of these guidelines, they will take command and fulfill their obligations for internal and external disclosure, strive to identify the cause of the incident and prevent its recurrence, and deal with the matter strictly and fairly in respect to all parties, including management itself.

(1) MGC will ensure customer and consumer satisfaction and trust by providing high-quality products and services that are useful, safe and reliable.
(2) MGC will voluntarily and proactively address environmental issues.
(3) MGC will comply with laws, regulations and rules, and will conduct fair, transparent, appropriate and open business activities.
(4) MGC will endeavor to ensure broad-ranging communication with society through appropriate disclosure of information.
(5) MGC will engage in business activities that are useful for society, and actively contribute to society as a responsible corporate citizen.
(6) MGC will provide comfortable and productive working conditions for employees, and will ensure a safe and rewarding working environment.

For entire guidelines, please refer to our website; http://www.mgc.co.jp/eng/about/compliance/index.html

MGC Group Vision

MGC Group aims to thoroughly realize CSR goals in all its activities while developing and growing sustainably on the global stage as a highly differentiated, widely recognized chemicals group operating from a strong platform of proprietary technology.

Corporate Governance

The establishment and maintenance of a sound and transparent management system is a key management issue, and a number of measures are being pursued with the aim of improving transparency, ensuring fairness, and accelerating decision-making.

Basic Approach to Corporate Governance

The Company has adopted an executive officer system and positioned the Board of Directors as the organization responsible for making decisions on critical management issues, including basic policies, and for overseeing business execution. This has strengthened governance and enhanced the operational framework by clarifying functions and responsibilities. MGC has also adopted an internal company system for its business divisions, which has clarified responsibility and improved management performance.

MGC aims to enhance the transparency and fairness of management through internal audits performed by audit & supervisory board members and will develop effective corporate governance through appropriate disclosure of management information.

Overview of Corporate Governance Structure

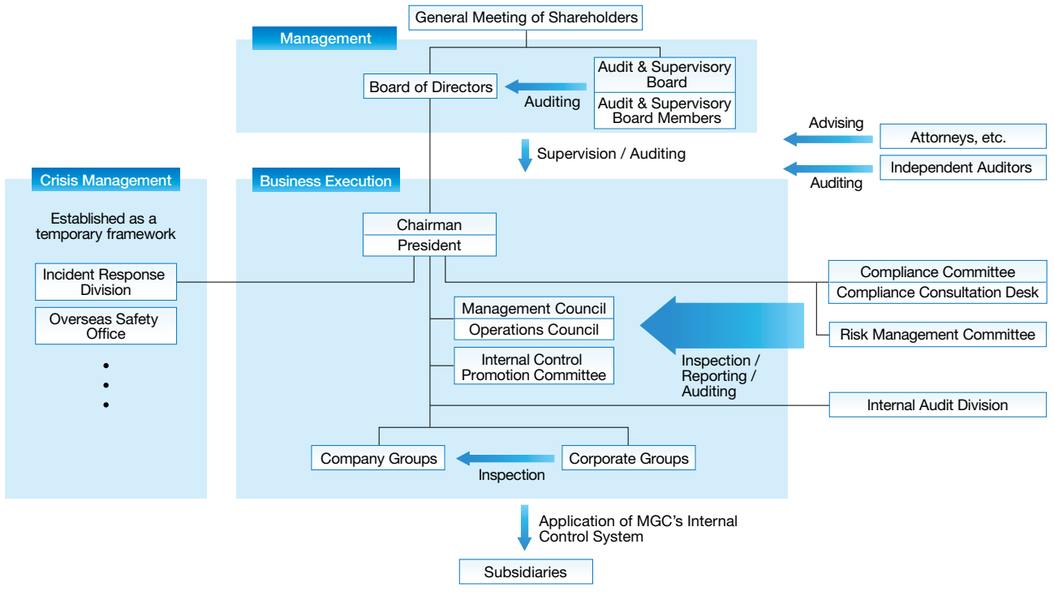
The current management structure consists of 10 directors and 22 executive officers (including people who concurrently serve as directors).

Any important matters affecting MGC are to be reviewed and decided with a broader perspective at the Management Council where management policy may be discussed, and at the Operations Council where definitive action plans may be discussed. In addition, MGC draws upon the expertise of legal counsel and other experts when required in the decision-making process and the business execution of the company.

There are five audit & supervisory board members, three of whom are external. They attend important meetings as well as board meetings, conduct audits of departments, survey subsidiaries, and strive to understand the decision-making process and status of business execution. In addition to ensuring a rational decision-making process and compliance with the law and corporate ethics, the audit & supervisory board members conduct inspections of our business operations. They hold regular meetings with the representative director and receive status reports from directors and employees on a regular basis and ad-hoc basis when concerning important matters, and may request explanations as required. They also inspect important documents concerning business execution, and require information from directors and employees.

In order to enhance internal controls and improve efficiency of business management, MGC has established an Internal Audit Division that is separate from the statutory auditors. This office oversees the execution of MGC and MGC Group companies in accordance with its annual plan.

Corporate governance, risk management structure figure



Compliance and Risk Management

In our aim to earn the trust and understanding of the community, MGC practices compliance while readying and strengthening systems for responding to any manner of risk.

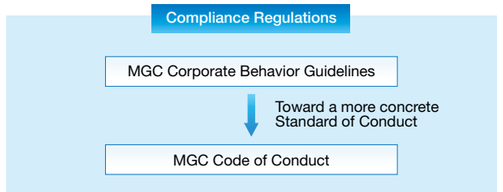
MGC Group Compliance

MGC established its “MGC Corporate Behavior Guidelines” in 1997 in an effort to strengthen its compliance system. In 2002 it established a Compliance Committee and a Compliance Consultation Desk. Moreover in 2004, the company laid down its “MGC Code of Conduct” and “Compliance Regulations,” and worked with its Group companies to ensure that they were aware of the policies and adhered strictly to the compliance rules.

Within the MGC Group we strive to proactively meet the needs of society by not limiting “compliance” to a set of laws and internal rules, but by embracing a broader belief in “complying with the law, internal rules, and social norms, as well as recognizing our corporate social responsibility to create a company with fair, transparent and open business practices.”

MGC Compliance Handbook

MGC compliance concepts



Compliance System and the Initiatives

MGC has established a Compliance Committee to oversee matters concerning the Group’s compliance program, headed by the Chief Compliance Officer and reporting directly to the President. In addition, we set up a “Compliance Consultation Desk” to detect and rectify noncompliance issues at the earliest stage.

Also, we set aside October each year as “Ethics Month” for compliance training. MGC’s intranet contains materials covering roughly 40 types of compliance requirements. We select some particular agenda, which match the social conditions of the time, and have our staff learn them through our e-learning system. In an effort to raise awareness of “Ethics Month,” the President actively promotes the program by communicating the details to all of our offices.

MGC compliance structure

Risk Management

To response to the various risks related to our business activities, MGC launched company-wide, comprehensive risk management activities in 2006 with the establishment of a Risk Management Committee.

To disseminate knowledge at the start of our activities, we conducted seminars for top management and for employees at all workplaces on the topics of the importance and practice of risk management. Following this, we listed and evaluated risks in each workplace and department, considered countermeasures, and conducted business continuity planning (BCP) with respect to those listed risks that call for prioritized response.

Currently, every year we set key themes such as supply chain risks and information leak risks, and conduct risk surveys. At the same time, we work to extend risk management more deeply into the company, including Group companies. On an ongoing basis, we consider and implement measures to reduce latent risks and conduct BCP reviews.

Risk Management Promotion System

The Risk Management Committee, headed by the Chief Compliance Officer, is composed of the heads of the four companies conducting business activities, as well as of the following departments: Corporate Planning Division; Finance and Accounting Center; Administrative and Personnel Division; Corporate Communications Division; and Environment and Safety Division. The Committee assesses risk situations from broad perspectives, and instructs and oversees departments to prioritize risks and enact risk reduction measures.

In terms of risks associated with project implementation, we have developed an action plan to identify and evaluate risks inherent in our operations or internal control systems. We then take the appropriate steps to prevent, avoid, reduce or divert the risk. In the event that a serious risk is identified, we set up a special group to cope with it according to internal rules.

Countermeasures for Company-wide Risk and BCP Development

Among the risks that accompany our business activities, we have identified earthquakes, toxic or hazardous substance leaks, fire and explosion, and information leaks as four that must be handled with priority on a companywide basis. Our workplaces are cooperating on formulating countermeasures and conducting BCP.

With regard to earthquakes in particular, following last year’s Great East Japan Earthquake we have reviewed and summarized the responses taken by affected workplaces, the main office, and other workplaces. By sharing the lessons gained from the experience and reflecting these in our BCP and training, we will strengthen our readiness toward disaster risks, as well as our response capabilities in the event that risks manifest.

Countermeasures for Metropolitan Epicentral Earthquake

In 2008, MGC put special measures in place to cope with a major earthquake in the Tokyo metropolitan area (a magnitude 7.3 earthquake north of Tokyo Bay assumed by the Cabinet Office). We introduced a safety confirmation system and provided offices with emergency devices such as wireless communication devices, so as to enable communication among workplaces even when regular telephone communications are disabled or restricted due to events such as a major earthquake. As part of our BCP, we conduct emergency training sessions using these systems and equipment each year, so that even if headquarters becomes paralyzed, each of our facilities such as plants and research centers may continue supporting customers and maintaining other services, supplementing the headquarters’ function.

In addition, we have planned for scenarios in which working employees and visiting guests face difficulties returning after a disaster. We have stocked food, drinking water, and other materials to allow persons in the company to remain in offices for at least three days. This preparation was actually put to use during last year’s Great East Japan Earthquake.


Wireless communication device for emergency use


Disaster reserve supplies

Together with Stakeholders

As a member of society MGC contributes to the community, and by fulfilling its responsibilities to various stakeholders, the company will earn society's trust and sympathy.

Together with the Community

MGC is deeply aware of its role as a member of society, working to improve its position of trust through a variety of communication channels, and promoting activities that contribute to the community.

Participation in local dialogue meetings

To explain our environmental conservation and process safety activities to local communities and deepen mutual understanding, MGC has continued to participate in local dialogue meetings held by the Japan Responsible Care Council (JRCC).

We participated in the fourth Responsible Care Niigata North District Local Dialogue Meeting in October 2011 and the eighth Yamaguchi West District Local Dialogue Meeting in November. We are making preparations to act as the secretariat company for the Yamaguchi West District Local Dialogue Meeting in FY 2012.

Niigata North District Local Dialogue Meeting

Yamaguchi West District Local Dialogue Meeting

Donation of science kits

To boost interest in science among children, since 2008 we provide junior high schools near our facilities with chemistry kits to make their own portable heating pads. These kits teach the students about the oxidation of iron, which generates heat and makes the pads warm.

Content of science experiment kits

Donating science experiment kits to junior high schools affected by the disaster

Interaction with local communities

In response to requests from nearby schools, we conduct workplace study tours at various locations. We also deepen our interactions with local residents by participating in summer festivals, conducting blood drives, and engaging in other activities.

Niigata Research Laboratory / Local university students taking a workplace study tour

Yamakita Plant / Providing hands-on learning to local junior high school students

Niigata Plant, Niigata Research Laboratory / Competing against local government bodies in a *mikoshi* shrine competition at the Niigata Hamamatsu Festival.

Mizushima Plant / Conducting a blood drive

Environmental cleanup activities at workplace surroundings

At each of its sites MGC participates in voluntary cleanup activities such as roads and nearby riverbeds.

Niigata Plant, Niigata Research Laboratory / Taking part in the "Operation Clean" held by the local government and other organizations at the Niigata East Port

Hiratsuka Research Laboratory / Riverbed cleanup along the Sagami River

Disaster aid

The MGC Group aided the areas hit by floods in Thailand in 2011 by donating to the Rajaprajanugroh Foundation established by His Majesty King Bhumibol Adulyadej.

President of THAI POLYACETAL, President of AGELESS (THAILAND), and Director of MGC THAILAND (THAILAND), all MGC Group companies, present a donation and letter to the Representative of the Foundation.

Our Business Partners

Efforts to improve customer satisfaction

In order to provide customer satisfaction to our clients, from our business partners to end consumers, MGC is committed to providing safe and reliable products and services. As a component of this commitment, all of our plants have received ISO 9000 series accreditation for international quality management.

We also conduct cu.stomer satisfaction surveys in an effort to constantly improve the quality of our products and services.

Building better relationships with partner companies

At the Logistics Department, Purchasing & Logistics Center, we work with our partner, transportation companies, to ensure the safety of our supply chain, to improve the quality of distribution, and work toward a modal shift. Moreover, from a compliance standpoint we conduct audits of our partner companies and strive to build even stronger relationships with them.

In addition, each of our offices conducts a Safety Day together with partner companies, enhancing safety awareness.

Reducing CO_2 emissions through modal shift

Participation in tradeshows

MGC actively participates in various exhibitions as a way to listen to the voice of our customers, which in turn helps us to develop better products.

For example, we exhibited chemical polishing solutions together with four Group companies at the TPCA (Taiwan Printed Circuit Association) Show in November 2011. Our participation lets us introduce the products and also leads to new product development that meets customers' needs.

MGC Group booth

Employees

Personnel system and human resources development

MGC's management concept is, "making contributions toward development in harmony with society through the creation of a diverse range of value based on chemistry." Our desire is to foster a team of professionals, empowering individuality in each employee and creating an energized workplace.

Personnel system

MGC's personnel system is a multi-stream vocational qualification grading system based on management by objectives. Up to the standard age of 28, employees belong to the same basic career path regardless of gender or educational background, and then move on to select courses that will help them in their career. It is a system that treats all employees equally, providing them with a range of career opportunities in line with individual aspirations that meet their role, achievements and capabilities.

Together with Stakeholders

Human resource development

In order to create an environment for each employee to achieve individual goals, we are working to enhance self-development programs (language training and distance learning, support for qualifications, external training, etc.) for each rank and sector using tools such as skill-development training and distance education.

Retention of new employees (three years after joining)

	FY 2007	FY 2008	FY 2009	FY 2010
Number of new employees	47	69	84	88
Number of employees at third year after joining, as of April	47	69	81	87
Retention	100.0%	100.0%	96.4%	98.9%

* Fiscal year refers to fiscal year in which new employees joined company.

Employee tenure (as of March 2012)

	Male	Female	Total
Average age	41 years old and 2 months	40 years old and 5 months	41 years old and 2 months
Number of years worked	18 years and 6 months	18 years and 0 months	18 years and 6 months

Re-employment

In response to measures that raise the eligibility age for special payments of the old age pension, we have introduced a retiree re-employment scheme to ensure a stable life after retirement. MGC provides in principle all employees the opportunity to continue working if they are healthy and desire to do so. Having motivated employees continue to play an invaluable role in the company helps to make it a vibrant workplace.

Re-employment of retirees

	FY 2008	FY 2009	FY 2010	FY 2011
Workers desiring re-employment	65	68	44	56
Re-employed workers	65	68	44	56
Re-employment rate	100.0%	100.0%	100.0%	100.0%

* Fiscal year = end of September + end of March

Support for social contribution activities

We provide support for employee social contribution activities. In 2009, we introduced a special paid leave such as paid volunteer leave or paid donor leave.

We also provide employees with paid leave for public service activities such as the *saibanin* (jury) system, creating an environment in which employees can actively contribute to society.

Employment of persons with disabilities

MGC's employment rate for persons with disabilities was 2.16% (legally mandated rate: 1.8%) in FY 2011. We maintain a workplace environment that allows persons with various disabilities to display their individuality, and will continue actively working to employ persons with disabilities.

Employment rate for persons with disabilities (at end of fiscal years)

	FY 2008	FY 2009	FY 2010	FY 2011
Employment rate (%)	1.94	1.92	2.16	2.16

Work-life balance

At MGC we believe that a proper work-life balance is vital. To help promote this idea we have implemented a no-overtime day, encouraged our employees to take their paid leaves, and introduced flextime as well as a system that allows employees to roll-over expired annual leave.

In order to support employees with children or aging parents who need assistant care, we introduced a childcare leave and nursing-care leave system, in addition to a system allowing shorter working hours, to help employees balance work with family life.

In 2011, we revised the childcare leave system, expanding the applicable period of the childcare leave and of the shortened working hour system. In 2012 we revised our nursing-care leave system for easier use by employees, expanding the system's applicable period and allowing split leaves.

Maternity leave

	FY 2008	FY 2009	FY 2010	FY 2011
Number of employees on maternity leave before & after birth	5	4	3	4
Number of employees on childcare leave*	6 (1)	4	4 (1)	5 (1)

* Number in ( ) indicates men on childcare leave
* For women, the fiscal year of child care leave is determined by the first day of maternity leave.

Family care leave

	FY 2008	FY 2009	FY 2010	FY 2011
Employee exercising leave	1	0	1	0

Mental health initiatives

It is important that our employees maintain their physical health, at MGC we have implemented programs to ensure mental health as well. The Employee Assistance Program (EAP) is one of these, in which employees can freely contact external professional institutes by e-mail, telephone or in person to discuss concerns. In addition, we conduct an annual "mental health" test to assess stress conditions and provide opportunities for self-evaluation while striving to raise stress awareness through workshops.

We also conduct mental health training during sessions designed for new employees and employees receiving a promotion. For new employees in particular, we have a "mentor system," which helps new staff gain independence as both an MGC employee, and as a member of society.

Respect for human rights

At MGC, we strictly adhere to our Corporate Behavior Guidelines and MGC Code of Conduct, to respect individual personality and human rights, to not hurt anyone by discriminating against them based on their race, gender, nationality, age, religion or place of origin. We provide separate training courses on human rights for new employees and managers to raise awareness of human rights among all employees.

Our Code of Conduct also articulates that sexual harassment and power harassment are prohibited. We are committed to preventing them within our company, and reinforce this principle through training sessions, internal communications and a special consultation desk.

These guidelines and code—along with guidelines for the prohibition of child labor and forced labor—have been communicated to our Group companies overseas.

Union / labor-management relations

Over the years MGC and the Mitsubishi Gas Chemical Workers Union have built up mutual trust and respect between each other based on positive labor-management relations, which allows them to work together to solve various issues. We regularly hold management council meetings to discuss issues related to management, and organize a joint management committee (such as a Personnel System Review Committee, etc.) for more specific agendas. Together we have revised the personnel system, the re-employment system, and retirement plans. Other issues such as wages and bonuses are determined through yearly collective bargaining and other negotiations.

With Shareholders and Investors

Basic policy on profit distribution

Returning profits to shareholders is considered one of MGC's most important management issues. Distributions are determined by a combination of performance-linked factors and stable dividends.

General meeting of shareholders

The annual shareholders meeting is held avoiding peak days so that as many shareholders can attend as possible. MCG is also endeavoring to send the convocation notice earlier to give shareholders more time to consider what to vote, and adopt an electronic voting system for better convenience.

Briefings for institutional investors and securities analysts, facilities tours

For institutional investors and securities analysts, we hold earnings briefings twice a year (at the midterm closing and annual closing) as well as study tours and business briefings. In FY 2011 we held a study tour of MGC Electrotechno Co., Ltd. and a briefing on our methanol business.

Earnings briefing for the term ended March 2012

Methanol business briefing

Environment and Safety Management

Sustainable development, building a recycling-based society, and safe operations are the three critical business challenges that MGC faces. Responsible Care (RC) is our response to both the environment and safety issues, and has been rolled out throughout the MGC Group.

The MGC Group
Policies on Environment and Safety

The MGC Group, as an important member of the community, makes an effort to earn social trust by recognizing our responsibility to contribute to the community, to secure the environment and safety of the community, and to put our corporate activities in harmony with the protection of the global environment under the principle of sustainable development.

Environmental and Safety Targets

Zero Accident, Zero Occupational Injury, and Environmental Preservation

Fundamental Policies

- Ensuring health and safety in our operations
- Ensuring security management of facilities and increasing self-protection technologies and skills
- Reducing environmental burden in business activities
- Ensuring safety in use, handling, and disposal of products
- Development of environmentally-friendly and safety-conscious products and technologies
- Ensuring environmental conservation and safety in the logistics of obtaining raw materials, and storing and delivering our products
- Building society's confidence in us

We shall comply fully with applicable domestic laws and foreign rules and shall also cooperate with related international organizations, international and national administrative organs, and nongovernmental organizations as required.

January 2012

MGC Group

Message from the Director in Charge of Environment and Safety

MGC is continuing its company-wide project to eliminate accidents and foster a culture of safety, with all plants incorporating TPM* activities and 5S activities as they work to achieve the project's objectives. We are working to promote communication among plants, deploy best practices horizontally throughout the company, and improve the on-site capabilities of both individuals and organizations. Moreover, to eliminate equipment troubles and enable long-term stable and safe operations, we are undertaking a variety of initiatives with regard to aged equipment and review of equipment specifications.

On the environmental front, we are working to achieve the numerical targets we have set for all matters related to energy conservation, and are continuing to reduce chemical substance emissions and industrial wastes. Looking ahead, we intend to further advance our environmental conservation activities both at our domestic and overseas affiliates.

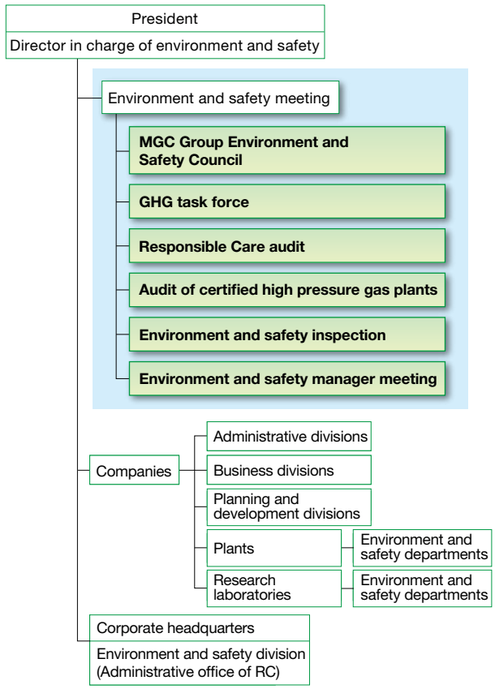
A couple of MGC Group plants suffered damage in the Great East Japan Earthquake that struck on March 11 of last year. Based on the lessons learned from that experience, throughout the company we are reviewing our damage scenarios for a large-scale earthquake and are evaluating the functions of our anti-disaster headquarters, risk management for manufacturing equipment, and enhancement of disaster preparation equipment to accommodate not only seismic motion but also ground liquefaction and major tsunami. We view the minimization of damage to our plants and their environs as one of our responsibilities as a company, and will continue to enact measures to do so.

Makoto Mizutani
Managing Executive Officer

*** TPM**: Total Productive Maintenance. This refers to improvement of production with the participation of all personnel.

Responsible Care Promotion System

All of MGC's divisions, at both the company and corporate level, follow fundamental environmental and safety principles that promote Responsible Care. Every December, MGC holds environment and safety meetings, which are chaired by the president and consist of all executive officers, division heads, and plant managers, and takes steps to make continuous improvements in the PDCA cycle based on the RC Medium-Term Plan targets and annual activity targets.



RC Audit in 2011

The director in charge of environment and safety, together with an auditing team, conducts the RC audit. This audit assesses the implementation status of RC action plans at each of our sites while deciding upon and auditing high importance audit items for the year.

In 2011, we conducted audits of our pollution prevention management as well as our handling of industrial injuries and accidents, from determination of cause to corrective measures.

Audit period
July – October, 2011

Auditees
5 plants, 3 laboratories (including Tokyo Techno Park), business divisions of 4 companies, Purchasing & Logistics Center

Audit findings
Full conformity (18 cases)　Non-conformity (1 case)
Improvement orders (18 cases)　Comments (21 cases)

Follow-up issues identified in previous year
We audited the handling of items identified at workplaces in the previous year to confirm that proper measures have been taken.

Kashima Plant / Overall audit

Mizushima Plant / Division audits

Results and Plans for RC Activities

★★★ : Achieved ★★ : Mostly achieved ★ : Further efforts required

RC Code	RC Medium-Term Plan 2011–2014	2011 RC Action Plan		2011 Achievements	Assessment	2012 RC Action Plan
Occupational Health and Safety **Process Safety and Disaster Prevention**	Working toward zero occupational injuries and accidents ■ Establish a culture of safety. • Enhance communications. • Eradicate human error. • Identify fundamental causes of accidents and occupational injuries, and undertake active measures to improve equipment. ■ Enhance voluntary process safety inspections. ■ Enhance joint disaster prevention systems with neighboring affiliates.	1. Continue daily activity (hazard prediction activities, *Hiyari-Hatto* (near miss) identification activities, 5S activities). 2. Practice risk assessment. 3. Enhance communication and link communication to eradication of human error. 4. Pursue valid corrective measures against accidents and occupational injuries. 5. Establish periodic inspections of pipes and other equipment; create and implement maintenance plans. 6. Establish or review joint disaster prevention systems with neighboring affiliates. 7. Devise emergency response training. 8. Provide guidance for partner companies' occupational injury prevention.		1. We are actively engaging in activities on an everyday basis. In particular, we improved the rate of participation in identifying near-miss incidents and worked to share examples of such incidents. 2. We performed risk assessments, using near-miss incidents to identify risks. 3. We worked to enhance communication using opportunities such as workplace get-togethers and patrols. We also held exchanges of ideas among plant managers, general managers, and division staff. 4. We incorporated analytical methods for comprehensively identifying causes of accidents and occupational injuries ("why" analysis, 4M, etc.), and worked to connect these to effective corrections. 5. We set maintenance plans incorporating equipment inspection cycles, and conducted safety inspections. 6. We reviewed the scope of our joint disaster preparation with close affiliates and our disaster communication structures, and conducted drills. 7. We devised and implemented emergency response drills at all workplaces. 8. We enhanced our cooperative framework for disaster preparation with partner companies, including sharing of disaster information, risk assessment, and safety education.	★ ★	1. Continue daily activity (hazard prediction activities, *Hiyari-Hatto* (near miss) identification activities, 5S activities). 2. Improve evaluated risks through risk assessment. 3. Enhance communication and link communication to eradication of human error. 4. Make use of accident and occupational injury analysis methods. 5. Enhance daily checks (inspections) and make sure that results are communicated. 6. Clarify joint disaster preparation scopes of responsibility with close affiliates and resident partner companies, and reconfirm responsibilities through drills. 7. Enhance emergency first response. 8. Conduct activities aimed at industrial accident prevention in partner companies (equipment improvements, educational support for partner companies' employees, enhancement of communication with partner companies, etc.).
Environmental Preservation	■ Reduce the energy consumption rate index to below 85% of the FY 1990 level. • Implement energy saving measures and reduction of equipment problems. ■ Reduce the greenhouse gas emissions rate index to below 75% of the FY 1990 level.	1. By working on energy saving measures while reducing equipment troubles to assure stable operation, we will improve our energy consumption rate index and reduce greenhouse gas emissions rate.		1. Energy saving Despite a 1% year-on-year improvement in the energy consumption rate index in FY 2011, the resulting 95% energy consumption rate index compared with FY 1990 failed to meet the target of the Medium-Term Plan (85% of the FY 1990 level). We have implemented energy conservation measures such as optimization of equipment operating conditions, obtaining an energy savings effect equivalent to 8,000 kl of crude oil. 1. Greenhouse gases Our FY 2011 greenhouse gas emissions rate saw a roughly 2% year-on-year improvement to 79% of FY 1990 unit emissions. However, this failed to meet the target of the Medium-Term Plan (75% of the FY 1990 level).	★ ★	1. We will advance energy saving measures while reducing equipment troubles to assure stable operation, and will improve energy consumption rate and greenhouse gas emissions rate. In particular, we will establish concrete measures for workplaces at which steam trap check-ups and steam equipment energy conservation check-ups were performed.
	■ Reduce emissions of PRTR substances and VOCs. • Focus reductions on substances with high emissions volumes.	1. We will set priorities for reducing emission volumes of PRTR substances and VOCs, and will draft and enact reduction plans with clear target values.		1. For sites holding substances with high emission volumes, we created and executed plans for reducing substances, specifically 1,2,4-trimethyl benzene and xylene. We reduced FY 2011 emissions of Japan Chemical Industry Association PRTR-targeted substances by 36% compared with FY 2010. We reduced our emission of VOCs by 41% compared with FY 2004.	★ ★ ★	2. We will set priorities for reducing emission volumes of PRTR substances and VOCs, and will draft and enact reduction plans with clear target values.
	■ Achieve zero emissions of waste. ■ Workplaces that achieve zero emissions will further reduce the final disposal volume.	1. Zero emissions of waste • Sites where targets were not achieved will set a landfill reduction target and strive to achieve zero emissions. • Sites where targets have been met will continue their efforts to further reduce final landfill.		1. We continued our achievement of zero emissions at 8 workplaces in FY 2011. Final landfill volumes totaled 130 tons in FY 2011, an increase of 34% from the 97 tons in FY 2010.	★ ★ ★	3. Sites where zero emissions of waste targets were not achieved will set a landfill target and strive to achieve zero emissions. Sites where targets were achieved will continue the practice of zero emissions, and undertake further reductions in final disposal volumes.
Chemical and Product Safety	■ Provide product safety information. • Reflect up-to-date information in MSDS.	1. Reflect up-to-date product safety information in MSDS. (Provide accurate information on hazards to customers, etc.)		1. We conducted a review of product MSDSs in conjunction with GHS support, and provided final versions to customers and other concerned parties.	★ ★ ★	1. Reflect up-to-date product safety information in MSDS. • Provide accurate information on hazards to customers, etc. • GHS support for in-development product MSDSs (Implement GHS support for in-development product MSDSs by December 2012.) • Review of our MSDS management system
	■ Conduct product risk management. • Perform risk assessment and risk reduction. • Adapt to overseas regulations for product risk management. • Conduct appropriate assessment of new products. ■ Promote development of products with lower environmental burden and energy saving technologies.	2. Implement in-house basic education on risk assessment. 3. Set implementation plans for risk assessment. 4. Conduct proper notifications and management in compliance with the EU REACH and other regulations. 5. Promote safety assessment during new product development (e.g., acute toxicity, Ames test, primary skin irritation). 6. Promote development of products with lower environmental burden and energy saving technologies.		2. At all workplaces, we conducted basic education on risk assessment for chemical substances, including an overview of revisions to the Law Concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. 3. We are considering and making plans for participation in the JIPS risk assessment activities of the Japan Chemical Industry Association. 4. We made additional preliminary registrations for two substances. We also confirmed categories according to CLP rules, submitted filings, and provided support for filings by importers in Europe. 5. Safety tests performed for new products in 2011 totaled 28 (10 acute toxicity tests, 11 Ames tests, and 7 primary skin irritation tests). 6. We developed bioplastics and halogen-free materials as environmental impact-reducing products. In energy-saving products, we also advanced our development of highly functional resin materials that achieve energy conservation as lighter-weight replacements for metals and glass.	★ ★ ★	2. Implement in-house education on risk assessment. 3. Set implementation plans for risk assessment. (Promote safety assessment during new product development.) 4. Adapt to and support overseas laws and regulations. 5. Promote development of products with lower environmental burden and energy saving technologies.

Occupational Health and Safety, Process Safety, and Disaster Prevention

MGC's top priority is to ensure safety, and we have a proactive approach aimed at zero accident and zero occupational injury.

Safety Philosophy

The top priority of our business activity is ensuring safety.
Safety is the basis of our business activity and ensuring safety is our duty to society.

Occupational Health and Safety Initiatives

To achieve our objective of no occupational injuries, our workplaces continually engage in everyday safety activities such as 5S activities, hazard prediction, and proposals to address near-miss incidents. Our worksites also advance various safety activities such as safety-related education and drills, and occupational health and safety risk assessments.


Mizushima Plant / KYT training


Yamakita Plant / 5S presentations


Tokyo Techno Park / Emergency medical training


Kashima Plant / Workplace safety risk assessment presentations


Kashima Plant / New equipment safety inspections by the Health and Safety Committee


Niigata Plant / Safety Assembly

Safety Performance

In 2011, occupational injury incidents resulting in lost time totaled two cases at MGC, and seven cases at partner companies.

Change in lost time injury frequency rate*1

	2007	2008	2009	2010	2011
MGC	0.59	1.43	0.57	0.28	0.54
Chemical industry	1.10	0.84	0.72	0.72	0.88
Manufacturing industry	1.09	1.12	0.99	0.98	1.05

*1 **Frequency rate**: Number of occupational injury casualties per one million working hours

Change in lost time injury severity rate*2

	2007	2008	2009	2010	2011
MGC	0.01	0.07	2.14	0.01	0.01
Chemical industry	0.04	0.07	0.13	0.04	0.04
Manufacturing industry	0.10	0.10	0.08	0.09	0.08

*2 **Severity rate**: Number of lost working days per 1,000 working hours

Preventing Occupational Injuries at Partner Companies

We share information on occupational injuries, perform risk assessments, provide safety education, and take other actions aimed at industrial accident prevention in partner companies, while we work to enhance our cooperative frameworks. In some plants, we also conduct audits and safety inspections of partner companies.


Mizushima Plant / Regular Maintenance Safety Assembly


Yokkaichi Plant / Traffic safety instruction for partner companies

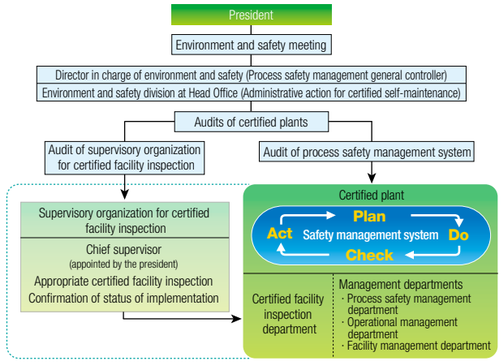
Process Safety and Disaster Prevention Activities

To prevent the occurrence of accidents and injuries, it is important to ensure the safety of production processes and the soundness of facilities. At each site we conduct inspections and renewal planning for facilities, and prioritize inspections, repairs and renewals according to each aging facility's risk and importance.

Certified High Pressure Gas Plants

We conduct audits of our certified high pressure gas plants under the direction of the Director in charge of environment and safety (Process Safety Management General Controller). Accordingly, our Niigata Plant and Mizushima Plant are "high pressure gas safety management code certified" high pressure gas plants. The aim of our audits is to objectively evaluate the high pressure gas safety management system and the certified inspection management framework to ensure that they are working effectively.

Certified process safety management system for high pressure gas



Responding to Emergencies

As a precaution, MGC has established a disaster prevention system at each of its sites, and conducts various drills according to the annual plan.


Mizushima Plant / Disaster preparation training


Niigata Plant / Disaster preparation training


Hiratsuka Research Laboratory / Firefighting training


Niigata Research Laboratory / Fire hose training

Accident Zero (AZ) Project Phase II

In response to yearly increases in accidents and abnormalities, as well as a serious accident that occurred at our Niigata Plant in December 2007, MGC launched the companywide Accident Zero (AZ) Project in February of 2008. Over the three years since we have continued activities to strengthen education and communication under the Project.

As these activities have become formalized and established in our laboratories we ended the project, and in FY 2011 rolled out focused activities in our plants as AZ Project Phase II (hereinafter "AZ Step II"). Over its three-year period of activity, we are advancing AZ Step II under two key directions: improvement of "on-site capabilities" in individuals and organizations, and prevention of equipment and operational troubles through cooperation with the Production Engineering Division.

In FY 2011, every plant undertook working group activities across the organization and worked to resolve issues common to all plants. Furthermore, MGC worked to improve the visibility of on-site issues and our capability to respond to those, through TPM activities and education on equipment management.

We connected these initiatives to the energizing of safety activities throughout the company, by means including liaison conferences for the special safety administrators responsible for AZ activity promotion in plants, and information exchanges through AZ activity inter-plant meetings. Through cooperation between the Environment and Safety Division and Production Engineering Division, our support for accident and trouble countermeasures at plants is showing results.


Kashima Plant / AZ workplace get-together


Niigata Plant / TPM check-up by the plant manager


Niigata Plant / Inter-plant meeting (overall discussion)


Mizushima Plant / Inter-plant meeting (working group-level discussions)

Environmental Burden of Business Activities

The environmental burden of our business in FY 2011 is displayed in the table below. Numeric values are totals for production sites.
Each MGC Group business has continued to make headway in making efficient use of input resources and making reductions in environmental emissions.

Total of MGC Group*1

FY 2010*2	FY 2011
Number of production sites: 38	Number of production sites: 38

INPUTS		Units	FY 2010	FY 2011
Energy consumption including purchased electricity (crude oil equivalent)		1,000 kℓ	636	647
Water consumption		1,000 m^3	43,997	44,691
Breakdown	Tap water	%	2	2
	Industrial water	%	61	59
	Groundwater	%	4	4
	River water	%	31	33
	Others	%	2	2

OUTPUTS	Units	FY 2010	FY 2011
Emissions to atmosphere			
Greenhouse gas emissions (CO_2 equivalent)	1,000 tons	1,487	1,498
SOx emissions	tons	179	148
NOx emissions	tons	721	661
Soot and dust emissions	tons	35	49
Released to water area			
Drainage volume	1,000 m^3	36,595	41,386
COD emissions	tons	299	262
Total nitrogen emissions	tons	292	253
Total phosphorus emissions	tons	56	55
Generation of waste			
Amount recycled (including amount sold)	tons	48,706	44,324
Transfer to off-site	tons	31,840	33,831
Final landfill	tons	1,652	1,538
Notified substances under PRTR Law			
Emissions (air)	tons	1,807	1,453
Emissions (water)	tons	21	16
Emissions (soil)	tons	0	0
Transfers	tons	1,026	1,173

MGC alone

FY 2010*2	FY 2011
Number of production sites: 7	Number of production sites: 7

INPUTS		Units	FY 2010	FY 2011
Energy consumption including purchased electricity (crude oil equivalent)		1,000 kℓ	533	550
Water consumption		1,000 m^3	38,804	39,493
Breakdown	Tap water	%	1	1
	Industrial water	%	60	59
	Groundwater	%	1	1
	River water	%	36	37
	Others	%	2	2

OUTPUTS	Units	FY 2010	FY 2011
Emissions to atmosphere			
Greenhouse gas emissions (CO_2 equivalent)	1,000 tons	1,275	1,303
SOx emissions	tons	151	112
NOx emissions	tons	667	605
Soot and dust emissions	tons	29	31
Released to water area			
Drainage volume	1,000 m^3	32,836	37,760
COD emissions	tons	260	232
Total nitrogen emissions	tons	269	230
Total phosphorus emissions	tons	54	53
Generation of waste			
Amount recycled (including amount sold)	tons	26,619	22,355
Transfer to off-site	tons	9,195	8,101
Final landfill	tons	91	124
Notified substances under PRTR Law			
Emissions (air)	tons	627	327
Emissions (water)	tons	13	12
Emissions (soil)	tons	0	0
Transfers	tons	551	540

*1 The data used for the total of MGC Group is the sum of the main domestic manufacturing and processing businesses.
*2 For reasons related to the closing fiscal year of the RC Medium-Term Plan 2010, MGC's Tokyo Techno Park (TTP) is counted among production sites in CSR Report 2011. Because TTP is treated as a non-production site from CSR Report 2012 onward, FY 2010 data differs from CSR Report 2011 in some values, including number of production sites.

Environmental Accounting

Using the Ministry of the Environment's guidelines on environmental accounting, the cost of environmental preservation through MGC's business activities and the economic result of those activities have been calculated quantitatively, and published for the public's review.

Environmental Preservation Cost

The cost of environmental preservation activities includes the investment costs of installing environmental preservation facilities and the expenses associated with running and managing those facilities, as well as the cost of research and development into environmentally friendly products.

Investments

The total investment related to environmental preservation activities in FY 2011 was 950 million yen. Its main components were soot control through boiler combustion improvements and upgrading of tank vent gas collection equipment at the Mizushima Plant.

Expenses

Total expenses related to environmental conservation activities in FY 2011 were 10.09 billion yen. Of these, the highest expense was 3.9 billion yen for research and development, accounting for 39% of the total. The next highest was 1.9 billion yen for environmental conservation costs, representing 19% of the total.

Benefits of Environmental Preservation Activity

Apart from the reduction in environmental burden that resulted from our environmental preservation efforts, we realized positive economic benefits such as income from the sale of wastes.

Environmental preservation benefit

In FY 2011 we improved our energy consumption and GHG emissions per unit of production. Performance values are shown on the Global Warming Prevention page.

Economic benefit

We generated additional revenue by selling valuable waste for recycling and re-use by other companies, and through cost savings from reduced energy consumption.

Economic benefit

Title	Item	Amount (millions of yen)
Income	Profit on sale of valuable wastes, etc.	90
Reduction of expenses	Effects due to energy saving	280

Environmental preservation cost (Breakdown of investment and cost by business)

Breakdown			Main areas of activity	(millions of yen) Investment	Expenses
Onsite cost	Pollution prevention cost	Air pollution prevention	Renewal, repairs, and maintenance of emission gas recovery equipment	166	610
		Water pollution prevention	Renewal, repairs, and maintenance of wastewater treatment facilities	120	1,777
		Soil, Noise	Prevention of soil infiltration; odor control	2	0
	Global environmental preservation cost		Maintenance of cogeneration facilities; replacement of ozone layer-destroying substances	11	1,908
	Resources recycling cost		Material and thermal recycling of waste	0	1,109
Up or down stream cost			Retrieval and reuse of product containers; green purchasing difference amount	0	43
Management activity cost			Maintaining green spaces; maintaining environment management systems	67	579
R&D cost			Research and development of energy-saving technologies and environmentally friendly products	588	3,959
Social contribution cost			Clean-up and greening of surrounding areas; support for environmental conservation organizations	0	8
Environmental damage cost			Compensation for environmental preservation	0	122
Total				**955**	**10,115**

*** Compliance with the Ministry of the Environment's Environmental Accounting Guidelines 2005**
Period: From April 1, 2011 to March 31, 2012
Scope: MGC only
Methods: Investments are proportionally related to the approved or enforced amount of capital expenditure to environmental preservation. Expenses are proportionally related to the ratio of environmental preservation and include depreciation allowance.

Global Warming Prevention

At MGC, each sector—manufacturing, transportation, office and residence—is making efforts to prevent global warming.

MGC Overall Performance

FY 2011 energy consumption and greenhouse gas emissions for all of the company's business activities were as follows. Emissions from plants' manufacturing divisions account for over 97% of greenhouse gas emissions.

For plant manufacturing divisions that are the focus of initiatives, we have set the following objectives for our measures.

- Energy consumption rate:
  Reduce to 0.85 or less compared with FY 1990 levels by FY 2014
- Greenhouse gas emissions rate:
  Reduce to 0.75 or less compared with FY 1990 levels by FY 2014

	Energy consumption (1,000 kl crude oil equivalent)	Greenhouse gas emissions (1,000 tons-CO_2 equivalent)
Plant Manufacturing Division	550.0	1302.9
Transportation Sector (shipper)	9.3	24.6
Office Area	5.7	9.0
Business activities overall	**565.0**	**1336.5**

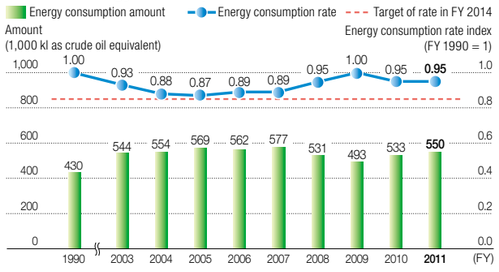
Manufacturing Plant Initiatives

FY 2011 energy consumption and greenhouse gas (GHG) emissions in the Plant Manufacturing Division increased 2–3% year-on-year due to increased production. At the same time, energy consumption rate per unit of production, for which numerical targets have been set as a part of initiatives, improved 0.6% year-on-year and GHG emissions rate improved 2.5% year-on-year.

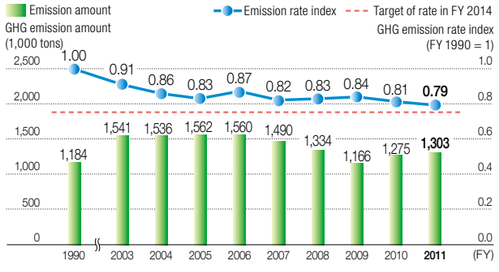
We implemented over 30 energy conservation measures in FY 2011, including thermal recovery of reaction heat, a switch to inverters for pump and fan motors, and optimization of operating conditions for fractionating columns and boilers. The energy conservation effect of these measures was equivalent to 8,000 kl of crude oil, and the greenhouse gas reduction effect was equivalent to about 17,000 tons of CO_2.

To advance new energy conservation measures, we followed the energy conservation check-ups of steam equipment at the Mizushima Plant in FY 2010 with check-ups at the Niigata Plant in FY 2011. We generated 76 energy conservation suggestions through the check-ups, with an expected total energy conservation effect equivalent to 7,800 kl of crude oil. Among these, we are considering details of energy conservation plans for FY 2012 and later, involving about 30 energy conservation suggestions that we expect will deliver relatively early returns on investment.

Trend of energy consumption amount and consumption rate



Trend of GHG emission amount and emission rate

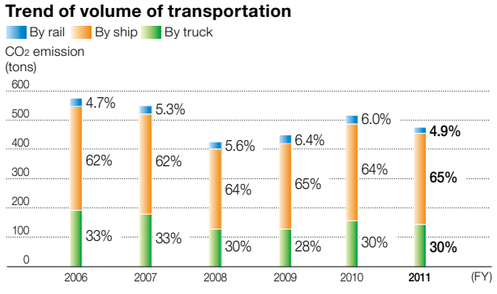


Initiatives in the Transportation Sector

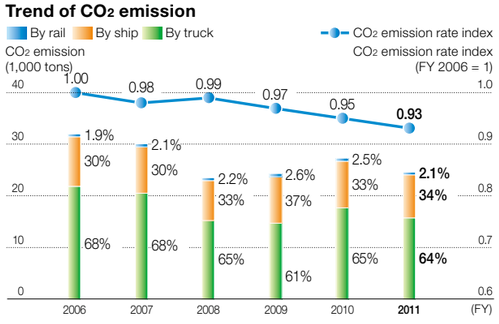
As an energy-saving measure in our Transportation Sector, MGC is undertaking initiatives focused on efficiency improvements in truck transport (use of larger transport lot sizes and improvement in loading ratio) and modal shift to rail transport.

Although transport weight increased in FY 2011, shorter average transport distances led to a reduction in transport volume in ton-kilometers (i.e., transport weight × transport distance). CO_2 emissions declined along with transport volume. In addition, the CO_2 emission rate improved about 2% year-on-year, marking a roughly 7% improvement in the six years since FY 2006.

Trend of volume of transportation



Trend of CO_2 emission



Activities in the Office and Employee Residence Area

We conduct a number of proactive measures to reduce energy consumption at our head office and laboratories. These include 'Cool Biz' during summer, 'Warm Biz' during winter, and turning off lights and computers when not in use.

In FY 2011 in particular, we conducted electricity-saving measures chiefly at three workplaces (the main office, Tokyo Techno Park, and the Hiratsuka Research Laboratory), which were targeted for a 15% cut in electricity usage to address the power shortage issue. The result was a reduction of over 15% year-on-year in annual energy consumption.

In our employee residence area, we delivered email messages to employees introducing examples of energy conservation measures centered on saving electricity, and at the same time called upon employees to undertake energy conservation using household eco-account books.

Trend of energy consumption in the business operations division

FY	Energy consumption (1,000 kl crude oil equivalent)	Greenhouse gas emissions (1,000 tons-CO_2 equivalent)
2009	6.10	10.57
2010	6.68	11.05
2011	5.66	8.98

Environmental Information Sharing System

In April 2012, we began full-scale operation of our Environmental Information Sharing System, which was constructed to manage information on the environmental impacts of business sites. Using the system, we compiled FY 2011 performance data.

The system is intended to increase efficiency in the compilation of increasingly complex environmental information and in reporting tasks. We also built the system to use in understanding problem areas within each production process and in verifying the effects of energy conservation measures, particularly through assessment of per-device/per-unit data on energy consumption and GHG emissions.

We are working to enhance the system's functions to enable more frequent data compilation, and intend to put it to use in collection and analysis of environmental information from Group companies, including those overseas.

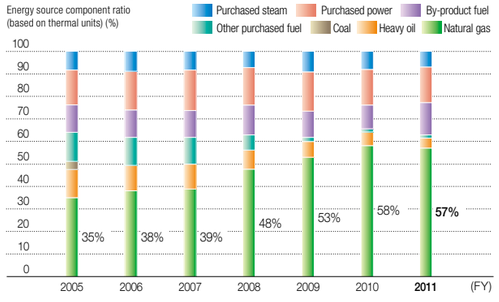
Development and Utilization of Clean Energy

In Niigata Prefecture, MGC has been actively conducting exploration and development work of natural gas, a clean fuel that has low emissions of CO_2 for each calorie of energy, as well as less sulfur and other impurities. We have deployed natural gas at our Niigata Plant, where it is used as both a raw material and an energy source.

We are also promoting the switch to natural gas-related fuels, such as city gas and LNG, at locations other than our Niigata Plant, and year by year are raising the ratio of natural gas within our energy consumption. In FY 2011, fuel conversion at our plants came to an end, with natural gas-related fuels making up the same 57% of our company-wide energy consumption as in the previous year.

In addition, MGC is participating in a project in Hachimantai, Akita Prefecture, to supply an adjacent power plant with geothermal steam, a type of renewable energy. Geothermal energy is plentiful in Japan and is expected to see further development. MGC is also taking part in a project to survey and develop geothermal resources in Yuzawa City, Akita Prefecture, with the aim of constructing a geothermal power plant.

Trend of energy source component ratio



Chemical Emissions

Based on our RC Medium-Term Plan 2014, MGC continues working to reduce emissions of volatile organic compounds (VOCs) and of chemical substances that are subject to notification of release and transfer (PRTR).

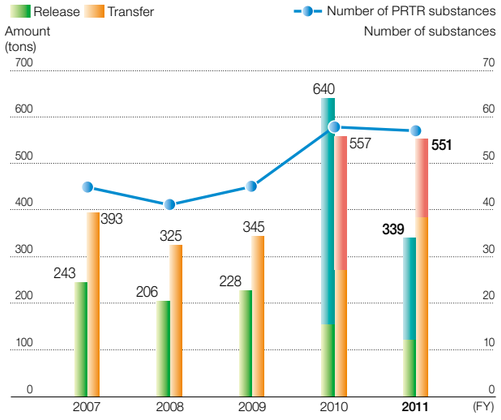
Substances Subject to Notification under the PRTR Law

Substances subject to release and transfer notification under revisions to the PRTR Law increased to 426 in FY 2010.

MGC provided notifications for 57 substances handled during FY 2011. Our emissions of these substances totaled 340 tons across all workplaces, a reduction of 300 tons (about 47%) from the previous fiscal year.

The main cause of the reduction was the 1,2,4-trimethyl benzene (pseudocumene) recovery equipment we put into service at the Kashima Plant. Our transfers of these substances totaled 551 tons across all workplaces, a reduction of 6 tons (about 1%) from the previous fiscal year.

Trend of fiscal year performance in PRTR substances



* The darker colors on the graph correspond to the additional substances specified by revision to the law.

PRTR substances with large emission volumes (substances with emissions of 1.0 tons or more in FY 2011) (tons)

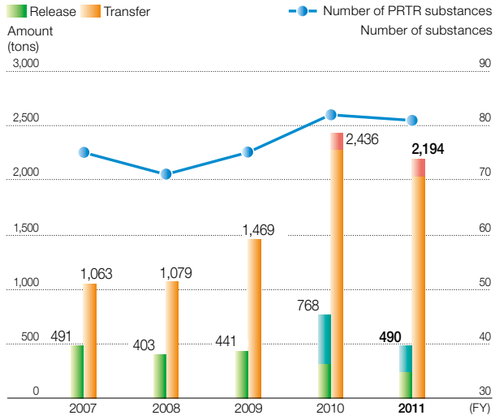
Cabinet order no.	Chemicals	FY 2011 results				
		Emission amount				Total volume of transfers
		Air	Water	Soil	Total	
296	1,2,4-Trimethylbenzene	207.2	0.0	0.0	207.2	11.6
186	Dichloromethane	71.5	0.0	0.0	71.5	4.7
80	Xylene	10.9	0.0	0.0	10.9	2.9
35	Isobutyraldehyde	9.5	0.0	0.0	9.5	0.0
300	Toluene	9.1	0.0	0.0	9.1	59.6
53	Ethylbenzene	5.5	0.0	0.0	5.5	0.0
392	n-Hexane	4.3	0.0	0.0	4.3	151.0
405	Boron compounds	0.0	4.1	0.0	4.1	0.2
374	Hydrogen fluoride and its water-soluble salt	0.0	3.3	0.0	3.3	0.2
333	Hydrazine	0.2	2.5	0.0	2.7	0.0
297	1,3,5-Trimethylbenzene	2.2	0.0	0.0	2.2	0.3
400	Benzene	2.1	0.0	0.0	2.1	0.0
411	Formaldehyde	0.4	1.1	0.0	1.6	17.1
56	Ethylene oxide	1.5	0.0	0.0	1.5	0.0
–	Other chemicals	2.9	0.6	0.0	3.4	303.5
Totals for substances subject to PRTR Law		**327.5**	**11.5**	**0.0**	**339.0**	**551.0**

Japan Chemical Industry Association PRTR-Targeted Substances

The Japan Chemical Industry Association, of which MGC is a single-company member, has on its own added specified substances to a subset of the substances requiring notification under the PRTR Law, and is working toward the reduction of these voluntary “PRTR-targeted substances” (433 substances plus 1 substance group). Corresponding substances released by MGC across all workplaces in FY 2011 totaled 81 substances with releases of 490 tons, a reduction of 278 tons (36%) from the previous fiscal year.

Our transfers of these substances totaled 2,194 tons across all workplaces, a reduction of 242 tons (about 10%) from the previous fiscal year.

Trend of fiscal year performance in Japan Chemical Industry Association PRTR-targeted substances



* The darker colors on the graph correspond to the additional substances specified by legal revision.

Volatile Organic Compounds (VOCs)

With regard to VOCs, we compiled data for substances which were released into the atmosphere by MGC and which are PRTR substances specified by the PRTR Law or the Japan Chemical Industry Association. Our releases in FY 2011 totaled 22 substances and 422 tons across all workplaces, a reduction of 293 tons (about 41%) from the previous fiscal year.

Trend of VOC atmospheric releases

Item	FY 2009	FY 2010	FY 2011
VOC releases (tons)	369	715	422
Estimated VOC releases (tons) prior to target substance revisions, contained within above		248	210

Equipment for recovery of solvents from discharged gas

Waste Reduction

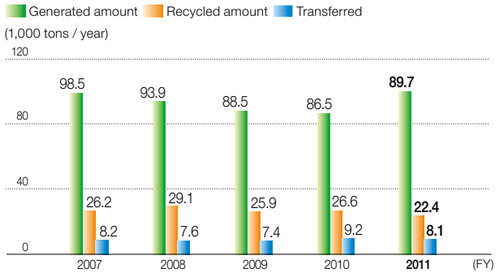
MGC promotes the 3Rs* and defines zero emissions as the reduction of final landfill to 0.3% or less of the volume of generated waste. We aim to achieve and maintain those goals through our RC Medium-Term Plan 2014, and are working to further reduce waste landfill volumes at each workplace.

* 3Rs: Reduce, Reuse, Recycle (of waste)

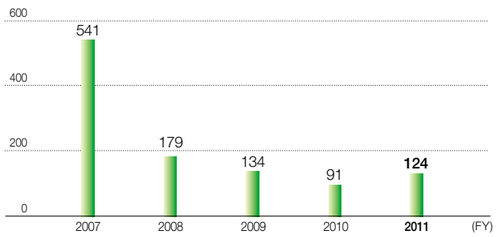
Waste Reduction Achievements

In FY 2011 our volume of final landfill discharged from production sites totaled 124 tons, a 36% increase from the previous fiscal year. The main reasons for the increase included an increase in the amount of spent catalysts. Note that the increase in final landfill experienced in FY 2007 was due to one-off sludge and soil waste of 285 tons.

Change in waste generation, recycling, and transfers



Final landfill



Zero Emissions of Waste

In FY 2011, we continued our achievement from the previous year of zero emissions at six of seven production sites.

As a whole, the seven production sites carried forward the record of zero emissions.

Plants achieving zero emissions in FY 2011

	2010	2011
Niigata Plant	0.18%	0.22%
Mizushima Plant	0%	0%
Kashima Plant	0.19%	0.17%
Yamakita Plant	0.05%	0.05%
Naniwa Plant	0.27%	0.01%
Saga Plant	0%	0%
Total of 7 production sites	0.11%	0.14%

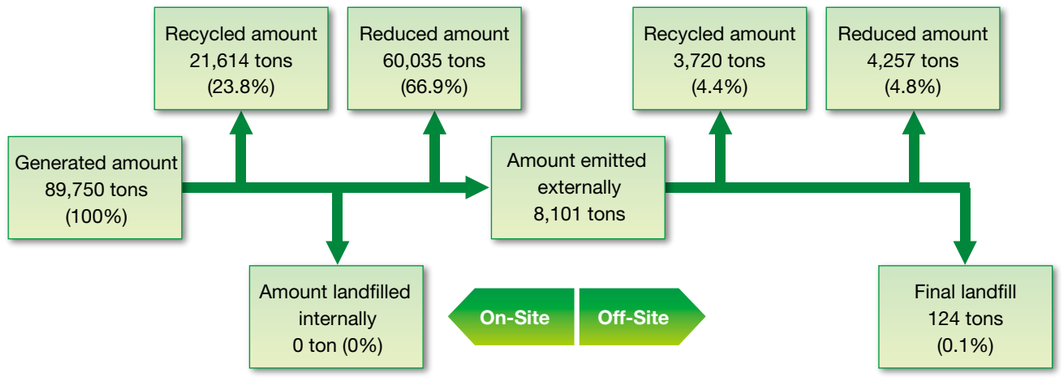
Zero emissions : Final landfill / waste generated = 0.3% or less

Management of Polychlorinated Biphenyls (PCBs)

MGC conducts strict management of PCB-containing equipment used in the past, in accordance with the PCB Special Measures Law.

In 2011, we performed one case of processing waste with high concentration of PCBs. We will continue our efforts to facilitate the processing of PCBs.

Waste Treatment in FY 2011



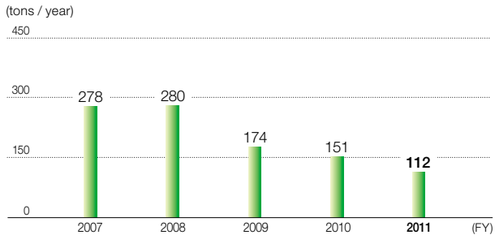
Air and Water Conservation

To protect our air and water environments, MGC is taking steps to further reduce the environmental impact of our production activities, starting from a foundation of compliance with regulatory values in accordance with laws, regulations, and ordinances.

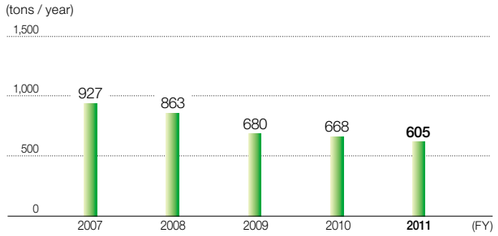
Prevention of Air Pollution

We measure the emissions of sulfur oxides (SOx), nitrogen oxides (NOx), soot and dust, and other toxic substances contained in the emission gas of boilers and other combustion facilities, to ensure that we stringently adhere to regulated limits through our operations.

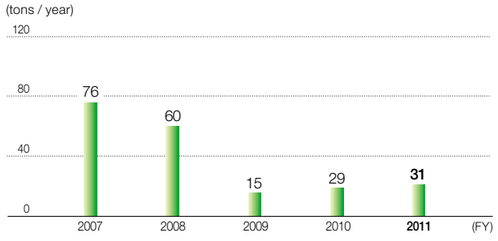
Emission of SOx



Emission of NOx



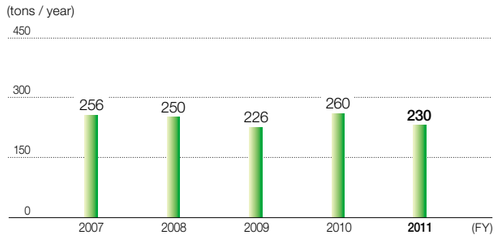
Emission of soot and dust



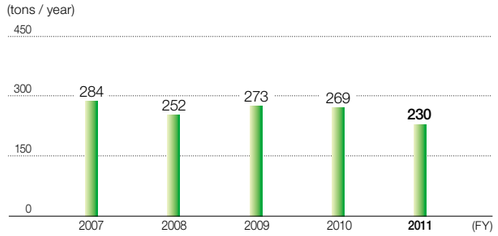
Prevention of Water Pollution

We are committed to operating in compliance with regulations for wastewater generated through production by ensuring that chemical oxygen demand (COD), total nitrogen, total phosphorus and other chemicals are within tolerance levels.

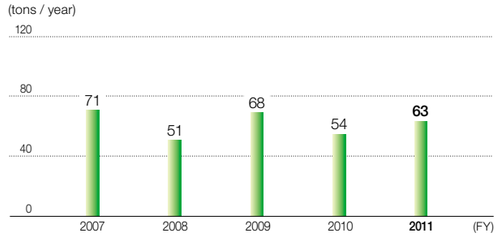
Emission of COD



Emission of total nitrogen



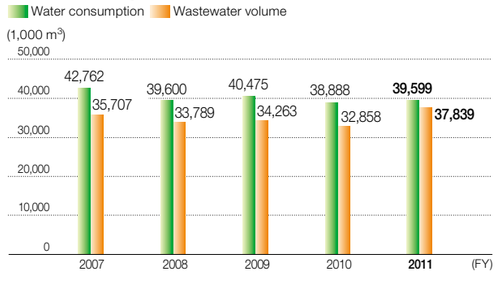
Emission of total phosphorous



Water Consumption / Wastewater Volume

We are committed to confirming our use of water resources and our wastewater, and making efficient use of resources.

Water consumption / wastewater volume



Safety Management of Chemicals and Products

MGC clearly explains properties, safety, and handling of its chemical products, as well as deploying various activities to protect the environment and to ensure the health and safety of all who use our products.

Safety Assessment of Chemical Substances and Products

At the development stage of products, MGC first conducts basic surveys and safety evaluations, classifies products according to degree of hazard under standards such as GHS[*1], and creates safety information such as safety data sheets (SDS[*2] = MSDS[*3]). Based on these, we perform risk assessments (of the hazards of the substances themselves, as well as of exposure) for all product processes, from manufacture to disposal, and offer the products after appraisal of their market feasibility.

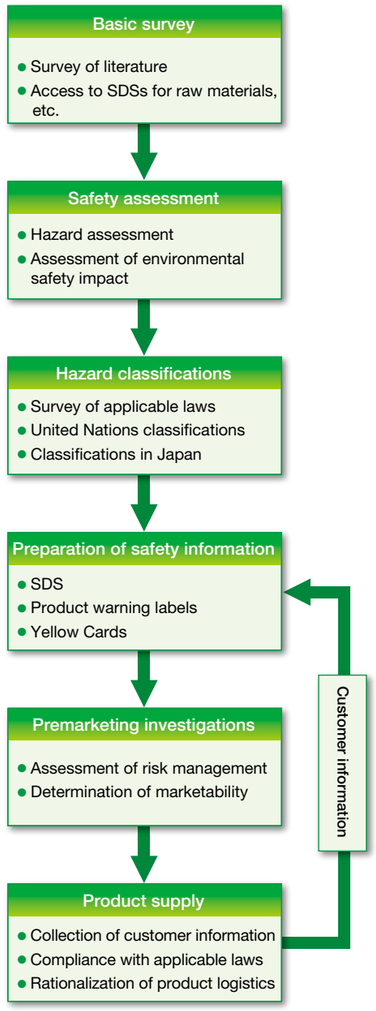
***1 GHS :** The Globally Harmonized System of Classification and Labeling of Chemicals. Chemical hazards are classified under fixed standards and are indicated clearly with pictograms on labels and SDS documentation. Ultimately, the information contributes to accident prevention, human health, and environmental preservation.
***2 SDS:** Safety Data Sheet.
***3 MSDS:** Material Safety Data Sheet.

Providing Safety Information

MGC provides safety information on chemicals through means including submission of product SDSs, placement of product warning labels on containers, and distribution of Yellow Cards to shipping companies.

SDS

SDSs are documents that convey detailed information about the handling and safety of chemicals, and are submitted to companies that handle our chemicals, such as customers, sales agents, and shipping companies. We submit GHS-confirming SDSs for in-development products (such as prototypes), too, just as we do for released products.



Labels

The labels we affix to product containers concisely display information on handling and safety, based on GHS.

We are working to address GHS conformity for those in-development products (prototypes, etc.) that are not yet compatible.

Yellow Cards

A Yellow Card is a card readied in preparation for an accident during domestic shipment. It briefly lists a product's properties and emergency response measures, or contact information including fire, police, and our Company. We distribute these cards to shippers of chemicals, and ensure that they are carried during product shipments.

Chemical and Product Safety Education

MGC conducts chemical and product safety education within its PL (product liability) education. In 2012 we are conducting education at each workplace on risk assessment methods under the EU REACH regulations, and are further undertaking education on JIS revisions involving GHS.

Hiratsuka Research Laboratory / PL education

Compliance with EU REACH Regulation

To understand and address the complex requirements (such as chemical registration requirements) set by the EU REACH chemical product management regulations that went into effect on June 1, 2007, MGC and its Group companies have organized a task force to undertake registrations and other requirements within the prescribed time. The task force is also addressing the creation and distribution of SDSs as it works toward strict compliance with the REACH regulations.

Emergency Response in Distribution

At MGC workplaces, we have set up a wide-area support system that includes supplying emergency goods and equipment to production sites and establishing communication between sites to facilitate emergency response to accidents that occur during transportation. Because of our preparation of response systems and supplies, we cooperate with local police or fire departments upon request, should an accident occur during another company's transport of product in the vicinity of our workplaces.

We conduct training for scenarios that include terrorism, logistics accidents, and shipping accidents with marine spills that require oil barrier deployment.

Mizushima Plant / Joint counter-terrorism drill at Mizushima Port

Mizushima Plant / Joint counter-terrorism drill at Mizushima Port

Kashima Plant / Logistics accident scenario drill (truck accident)

GLP Certified Testing Facility

The MGC Niigata Research Laboratory is recognized by the Japanese government as conforming to GLP* test facilities for Ames mutagenicity testing and biodegradability testing. As GLP test reports can be used in notifications under the Industrial Safety and Health Law and the Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., it is possible for us to conduct the testing necessary for notifications of new chemical substances. GLP test reports command high confidence internationally as well.

We conduct testing to evaluate the safety of the chemicals handled by the MGC Group, including acute oral toxicity tests, primary skin irritation tests, and pathogenicity tests.

*** GLP (Good Laboratory Practice):** GLP is a system which ensures the reliability of test results, through government recognition of excellent testing facilities that demonstrate GLP standards-based management, testing equipment, test planning, internal auditing systems, reliability assurance systems, and compliance with test result standards.

RC Activities on Site

Niigata Plant

Address: 3500 Matsuhama-cho, Kita-ku, Niigata-shi, Niigata 950-3121, Japan Tel: +81-25-258-3474
ISO 14001 certification: June 1998 (certification body: DNV)

Message from the Niigata Plant Manager

The Niigata Plant, which enjoys abundant resources such as natural gas extracted from the Niigata earth and water from the grand Agano River that flows across the Echigo Plain, is a plant with deep roots in the Niigata region. The plant has close ties to people in the surrounding area and contributes to the region through production activities, while working hard to assure safety and preserve the environment. At the end of 2011, the plant launched comprehensive facilities management TPM activities. The plant will continue to push forward toward safer and more stable operation.

Masato Inari
Plant Manager

"Operation Clean" at the East Port environs

Main products

- Methanol, Ammonia, and their derivatives
- m-Phenylenebis (methylamine)
- MX Nylon
- Bio-related products

Environmental burden data (FY 2011)

Water consumption (1,000 m^3)	12,558
GHG emissions (1,000 tons-CO_2)	471
NOx emissions (tons)	343
SOx emissions (tons)	0
Total drainage volume (1,000 m^3)	17,087
BOD emissions (tons)	27
Waste transferred offsite (tons)	2,259
Final landfill (tons)	115

PRTR substances	Emissions (tons)	Transfers (tons)
Ethylene oxide	1.5	0.0
Dichloromethane	0.5	0.7
Methyl methacrylate	0.3	25.0

Niigata Research Laboratory

Address: 182 Tayuhama Shinwari, Kita-ku, Niigata-shi, Niigata 950-3112, Japan
Tel: +81-25-259-8211

Message from the Research Laboratory Director

The Niigata Research Laboratory is located in the northern part of Niigata city. We cooperate with our neighbor, the Niigata Plant, in a variety of RC activities. Our wish is to aim for harmony with nature, contribute to the development of society through chemistry, and grow sustainably. Through scientific technology we will undertake the development of new products that contribute to the formation of an environmentally friendly recycling based society, with the participation of all.

Takafumi Abe
Executive Officer
Laboratory Director

Main research themes

- Process development
- Catalysts
- Pharmaceutical intermediates
- New energy-related research
- Biotechnology
- Life science

Cooperating annually with blood drives

Study tour of laboratory by students of the Niigata University of Pharmacy and Applied Life Sciences

Mizushima Plant

Address: 3-10 Mizushima Kaigan Dori, Kurashiki-shi, Okayama 712-8525, Japan Tel: +81-86-446-3822
ISO 14001 certification: May 2000 (certification body: JCQA)

Message from the Mizushima Plant Manager

The Mizushima Plant, located in Japan's prominent Mizushima industrial complex, has made major achievements in reducing emissions of volatile organic compounds (VOCs) throughout the complex, as well as in controlling environmental impacts through proprietary environmental conservation activities. At present, the plant is working toward the goals of energy conservation, reduction of air- and water-polluting substance emissions, reduction of industrial waste emissions, and promotion of zero emissions. From 2010, the plant has achieved its target of zero emissions of industrial waste. In 2012 the plant will also install recovery equipment to address large-scale emissions of waste sulfuric acid, with the aim of significantly reducing emissions.

Kenji Inamasa
Executive Officer
Plant Manager

Fire extinguisher drill

Main products

- Xylene isomers
- m-Xylene derivatives
- Specialty aromatic products
- Polyols

Environmental burden data (FY 2011)

Water consumption (1,000 m^3)	12,347
GHG emissions (1,000 tons-CO_2)	591
NOx emissions (tons)	209
SOx emissions (tons)	110
Total drainage volume (1,000 m^3)	10,989
COD emissions emissions (tons)	135
Waste transferred offsite (tons)	3,929
Final landfill (tons)	0

PRTR substances	Emissions (tons)	Transfers (tons)
Xylene	10.9	2.8
Hydrogen fluoride and its water-soluble salt	3.2	0.0
Isobutyraldehyde	2.6	0.0

Hiratsuka Research Laboratory

Address: 6-2 Higashiyawata 5-chome, Hiratsuka-shi, Kanagawa 254-0016, Japan
Tel: +81-463-21-8600

Message from the Research Laboratory Director

The Hiratsuka Research Laboratory is located to the east of Shonan Hiratsuka, near the Sagami River. With safety and environmental conservation as its top priorities, the laboratory contributes to the local region as it conducts research and development activities. Those activities always conceal sources of danger and insecurity, but with all employees nipping those dangers in the bud, the laboratory aims to safely contribute to the region and community.

Shojiro Kuwahara
Laboratory Director

Main research themes

- Specialty plastics
- Coating adhesives
- Packaging materials
- Resist materials
- Molding

Clean-up and planting along the Sagami River

Workplace tour for Ohara High School students

Yokkaichi Plant

Address: 4-16 Hinagahigashi 2-chome, Yokkaichi-shi, Mie 510-0886, Japan Tel: +81-59-345-8800
ISO 14001 certification: August 1999 (certification body: JQA)

Message from the Yokkaichi Plant Manager

The Yokkaichi Plant is located in the North of Mie Prefecture, overlooking Ise Bay. Its environment is dominated by nature such as the scenic beauty of the Yunoyama Hot Springs. The region, once characterized by negative images such as "Yokkaichi asthma," has been greatly transformed by the enactment of municipal environmental basic regulations and environmental planning. Under the same environmental conservation policies as the local administration, the Yokkaichi Plant emphasizes safety and security and is conducting business activities so as to earn the trust of local residents, through activities such as RC and environmental risk assessments.

Motoyoshi Onobori
Executive Officer
Plant Manager

Employees cleaning the roads surrounding the plant

Main products

- Hydrogen peroxide, other industrial chemicals
- Polyacetal plastics

Environmental burden data (FY 2011)

Water consumption (1,000 m^3)	7,582
GHG emissions (1,000 tons-CO_2)	83
NOx emissions (tons)	41
SOx emissions (tons)	1
Total drainage volume (1,000 m^3)	5,752
COD emissions (tons)	43
Waste transferred offsite (tons)	743
Final landfill (tons)	6

PRTR substances	Emissions (tons)	Transfers (tons)
1,2,4-Trimethylbenzene	122.2	0.0
Toluene	1.7	59.6
Formaldehyde	0.8	0.0

Yamakita Plant

Address: 950 Kishi, Yamakita-machi, Ashigarakami-gun, Kanagawa, 258-0112, Japan Tel: +81-465-75-1111
ISO 14001 certification: May 2000 (certification body: JQA)

Message from the Yamakita Plant Manager

The Yamakita Plant was built in 1933 as Japan's first hydrogen peroxide manufacturing plant, in a location endowed with nature such as the Sakawa River and the Tanzawa Mountains. The plant has coexisted with the region for about 80 years since its founding, and continues its operations in harmony with the environment. To maintain its environment and keep the trust of local residents, the plant continues working to reduce environmental impacts and to strengthen the relationship of trust with local residents through active communication.

Masamichi Mizukami
Plant Manager

Ammonia leak drill

Main products

- Derivatives of hydrogen peroxide
- Persulfates

Environmental burden data (FY 2011)

Water consumption (1,000 m^3)	5,295
GHG emissions (1,000 tons-CO_2)	17
NOx emissions (tons)	2
SOx emissions (tons)	0
Total drainage volume (1,000 m^3)	4,747
COD emissions (tons)	16
Waste transferred offsite (tons)	709
Final landfill (tons)	1

Kashima Plant

Address: 35 Higashi Wada, Kamisu-shi, Ibaraki 314-0102, Japan Tel: +81-299-96-3121
ISO 14001 certification: February 1999 (certification body: JQA)

Message from the Kashima Plant Manager

The Kashima Plant is situated in the Kashima Eastern Industrial Complex, surrounded by the rich natural environment of the Kashima Sea, Tone River, and Lake Kasumigaura. The plant is strengthening its cooperation with other companies in the complex as it undertakes a switch to city gas as fuel, along with environmental measurement, greenery management, and other environmental and disaster preparation activities. From July 2012, the Environment and Safety Department has also been participating in TPM activities and making further efforts toward environmental conservation. At the same time, it has worked toward harmony with the environment and cooperation with the local community in all stages of its business activities, and is promoting the creation of a plant that contributes to the creation of a sustainable global future and an affluent society.

Tsuneaki Iwakiri
Executive Officer
Plant Manager

Disaster preparation drill

Main products

- Hydrogen peroxide
- Polycarbonate plastics

Environmental burden data (FY 2011)

Water consumption (1,000 m^3)	1,668
GHG emissions (1,000 tons-CO_2)	131
NOx emissions (tons)	5
SOx emissions (tons)	0
Total drainage volume (1,000 m^3)	1,585
COD emissions emissions (tons)	11
Waste transferred offsite (tons)	604
Final landfill (tons)	1

PRTR substances	Emissions (tons)	Transfers (tons)
1,2,4-Trimethylbenzene	85.0	11.6
Dichloromethane	71.0	2.6

Tokyo Techno Park

Address: 1-1 Niijuku 6-chome, Katsushika-ku, Tokyo 125-8601, Japan
Tel: +81-3-3627-9411

Message from the Tokyo Techno Park General Manager

Kanamachi in Katsushika, Tokyo, the birthplace of the company, has seen a rapid transformation from an industrial zone to a research campus rich in greenery. Making use of its location endowed with rivers and greenery about 15 km from the metropolitan center, Tokyo Techno Park is playing a role in that transformation, further heightening its presence as an engine for research results in advanced fields while remaining close to local surroundings. TTP is also further energizing its RC activities by all employees and is undertaking the creation of a new culture of safety, building on a foundation of conserving the environment and securing safety.

Osamu Kondo
Executive Officer
General Manager

TTP internal organization

- Management Center
- Oxygen Absorbers Techno Center
- Electronics Materials R&D Center
- Tokyo Research Laboratory
- MGC Chemical Analysis Center

Comprehensive disaster preparation drills

Firefighting education by the Kanamachi Fire Department

MGC Group's Environmental and Safety Activities

Twelve domestic partner companies of the MGC Group that handle chemical products (as of March 2012) are promoting environmental and safety initiatives within the MGC Group Environment and Safety Council. In addition, the director in charge of the environment and safety carries out environmental and safety audits on domestic and overseas affiliates.

RC Medium-Term Plan	2012 RC Action Plan
■ Expanding target Group companies for environmental and safety activities (support to include terminals, transport, etc.) ■ Promotion of the sharing of safety information with domestic and overseas Group companies	■ Enhancement of the MGC Group Environment and Safety Council ■ Sharing and horizontal deployment of information on abnormal occurrences and industrial accidents (Member companies of Council, three additional companies, and a portion of overseas Group companies)

MGC Group Environment and Safety Council

The Council meets twice a year to exchange ideas and to report on topics including MGC's and member companies' annual plans for environmental and safety activities, the results of the activities, and the status of accidents and occupational injuries.

Environmental and Safety Audits

With the director in charge of the environment and safety as team leader, we conduct three or four domestic and two or three overseas environmental and safety audits each year in support of the Group companies' environment and safety activities. In 2011, we postponed some audits due to the Great East Japan Earthquake, but performed audits at the following five companies.

- Shin Sanso Kagaku Co.
- Japan Finechem Co., Inc., Sakaide Plant
- MGC Pure Chemicals Taiwan, Inc. (MPCT)
- Korea Engineering Plastics Co., Ltd. (KEP)
- Samyoung Purechemicals Co., Ltd. (SYPC)


Shin Sanso Kagaku


MPCT / Taiwan

MGC Group Company Topics


Declaration of Safety by the plant manager at a Safety Assembly **(MGC Filsheet Co., Ltd., Tokorozawa Plant)**


Japan Industrial Safety and Health Association KYT extra-company training for new employees **(MGC Electrotechno Co., Ltd.)**


Unannounced drill **(Japan Pionics Co., Ltd.)**


Training for a scenario involving an alkaline liquid waste spill from a truck **(Yonezawa Dia Electronics Co., Inc.)**


Verifying traffic safety in conjunction with an Aichi Prefecture traffic safety campaign **(Toyo Kagaku Co., Ltd.)**


Firefighting drill using hydrants and fire hoses **(Japan Circuit Industrial Co., Ltd.)**


Comprehensive disaster drill for a simultaneous spill and fire scenario **(Japan Finechem Co., Inc.)**


Exhibiting model technique at the New Year's firefighters' event held at the Kamisu City Hall **(JSP Corporation)**

12 Member Companies of the MGC Group Environment and Safety Council

Eiwa Chemical Industry Co., Ltd.

Manufacture and sale of blowing agents

Address: Daido Seimei Co. Kyoto Bldg. 9F, 595-3 Manjuya-Cho, Sanjo-sagaru, Karasuma-dori, Nakagyo-ku, Kyoto-shi, Kyoto 604-8161, Japan
Tel: +81-75-256-5131
URL: http://www.eiwa-chem.co.jp/en/


Hirotsugu Yamamura
President & CEO

We are the only company in Japan synthesizing organic blowing agents. Organic blowing agents have the characteristic of continuing to generate gas in large quantities through pyrolysis even without air, and are indispensable products in a wide range of fields such as insulation, sound absorption, and creating lighter products. We will continue advancing safety and environmental measures to ensure stable operation.

MGC Filsheet Co., Ltd.

Manufacture of polycarbonate film and sheet

Address: 4-2242, Mikajima, Tokorozawa-shi, Saitama 359-1164, Japan
Tel: +81-4-2948-2151
URL: http://www.mgcfs.jp/en/


Kuniaki Jinnai
President & CEO

As a manufacturer of special functional film and sheets, our company conducts its business at sites in Tokorozawa and Osaka. Under newly launched activities to improve our business, we are aiming to foster an open corporate culture with awareness-raising and communication as our keywords. On the environment and safety front, we are working to strengthen risk assessment activities and compliance with rules.

MGC Electrotechno Co., Ltd.

Manufacture of copper-clad laminates

Address: 9-41, Aza-Sugiyama, Oaza-Yone, Nishigo-mura, Nishishirakawa-gun, Fukushima 961-8031, Japan
Tel: +81-248-25-5000


Yuh Miyauchi
President & CEO

In April 2012, the company's name was changed to MGC Electrotechno. At present, the company is moving ahead with multiple large-scale projects, including construction of MGC Electrotechno Thailand as a second BT production site in that country. MGC Electrotechno aims to become the world's premier CCL supplier. Sharing MGC's Safety Philosophy of "The top priority of our business activity is ensuring safety," it is striving to foster a culture of safety and achieve zero accidents and zero occupational injuries.

JSP Corporation

Manufacture and sale of foamed plastics

Address: Shin-Nisseki Bldg., 4-2 Marunouchi 3-chome, Chiyoda-ku, Tokyo 100-0005, Japan
Tel: +81-3-6212-6300
http://www.jsp.com/en/


Kozo Tsukamoto
President & CEO

As an internationally competitive company that places importance on safety and the environment, we have joined the Responsible Care Committee of the Japan Chemical Industry Association and launched new activities. We were also able to get through power shortages and electrical usage restrictions in FY 2011 by forming a joint scheme that links plants. We also achieved reductions in greenhouse gas emissions rate and energy consumption rate.

12 Member Companies of the MGC Group Environment and Safety Council

Japan Finechem Co., Inc.

Manufacture and sale of fine chemicals and electronic products

Address: Uchisaiwaicho Tokyu Bldg. 9F, 3-2 Uchisaiwaicho 1-chome, Chiyoda-Ku, Tokyo 100-0011, Japan
Tel: +81-3-5511-4600
URL: http://www.jfine.co.jp/eng/

Norio Hakuta
President & CEO

Our company makes safe and stable operation, with zero accidents and zero occupational injuries, our most important management issue. As a company, we are undertaking voluntary conservation, risk assessment, 5S, near-miss KY proposals, and other safety activities that aim to reduce risks in equipment and work. We are also putting effort into energy conservation, reduction of chemical substance releases and transfers, and other environmental conservation activities aimed at reducing environmental impact.

Toyo Kagaku Co., Ltd.

Resinous molding processing

Address: 51-497 Aza-Doudou, Oaza-Morowa, Togo-cho, Aichi-gun, Aichi 470-0151, Japan
Tel: +81-561-39-0531
URL: http://www.toyo-kagaku.co.jp/

Shinichi Takahashi
President & CEO

We are developing our molded plastic product manufacturing and sales business in the Chubu Region, Okayama Prefecture, and Guangdong Province in China. We are working to reduce environmental impacts by increasing our recycling of materials and by reducing wastes. We are also working to reduce risks in the handling of heavy molding dies, and to improve safety consciousness through measures such as verifying traffic safety in conjunction with the National Traffic Safety Campaign.

Shin Sanso Kagaku Co.

Manufacture of hydrogen peroxide

Address: 148-58 Yufutsu, Tomakomai-shi, Hokkaido 059-1372, Japan
Tel: +81-144-55-7337
URL: http://www.sskc.co.jp/

Tsukasa Sawai
President & CEO

Our company is located in Tomakomai City, an industrial city endowed with nature that includes a portion of Shikotsu–Toya National Park and the neighboring Lake Utonai, which is registered under the Ramsar Convention. Meeting our 25th year since founding as the only manufacture in Hokkaido of the environmentally friendly chemical product hydrogen peroxide, we are engaged in stable production under the idea of zero accidents and zero occupational injuries, with the securing of safety and environmental conservation as our priority.

Japan Circuit Industrial Co., Ltd.

Manufacture and sale of printed circuit boards

Address: 2-1236 Kamiike-cho, Toyoda-shi, Aichi 471-0804, Japan
Tel: +81-565-88-3718
URL: http://www.jci-jp.com/

Hidenobu Fujimori
President & CEO

Toyota City has been host to a variety of activities since its selection as an “environmental model city.” Our company is also working toward further environmental improvements from a CSR perspective, including energy and resource conservation, reduction of wastes, and greening measures. Our company’s safe operation is made possible through gaining the trust of local residents and through the ability of employees to work without worry. We will continue preserving these as the basis of our company’s BCP.

Japan Pionics Co., Ltd.

Manufacture and sale of gas purifiers and abatement system

Address: 3-3-32 Tamura, Hiratsuka-shi, Kanagawa 254-0013, Japan
Tel: +81-463-53-8300
URL: http://www.japan-pionics.co.jp/en/

Ryoichi Takahashi
President & CEO

Our company conducts RC activities according to the MGC Group’s Fundamental Policies on Environment and Safety to ensure the promotion of the environment and safety. “Safety first through the participation of all” forms our safety policy, under which all of us work toward the objectives of our safety activities. With regard to environmental conservation, we are pursuing concrete objectives for energy-conserving product development, industrial waste reduction, and energy conservation measures.

Japan U-PiCA Co., Ltd.

Manufacture and sale of unsaturated polyester resin and coating resins

Address: Madre Matsuda Bldg., 4-13 Kioi-cho, Chiyoda-ku, Tokyo 102-0094, Japan
Tel: +81-3-6850-0241
URL: http://www.u-pica.co.jp/English/

Kuniaki Ageishi
President & CEO

As a member of the MGC Group, our company is steadily carrying out RC activities. Under the Double Productivity Project we launched in 2011, we aim to reduce our rate of CO_2 emissions through increased productivity. We are also setting a course to develop biomass-related products as we contribute to improving the global environment.

Fudow Co., Ltd.

Manufacture and sale of molding resin

Address: NOF Shin-Yokohama Bldg. 5F, 2-15-16 Shin-Yokohama, Kouhoku-ku, Yokohama-shi, Kanagawa 222-0033, Japan
Tel: +81-45-548-4210
URL: http://www.fudow.co.jp/e-index.html

Takahisa Furuya
President & CEO

At our four plants, including our Hiratsuka Plant in the Shonan district and our Fujinomiya Plant situated in an area of strict environmental standards at the foot of Mount Fuji, we are promoting environmental conservation and safety through C-TPM, 5S, and KYT activities. It is important to maintain safety, but also to continue creating it every day. As we share readiness among each employee to make our production activities themselves environmental conservation activities, we will create a culture of environmental conservation and safety for Fudow.

Yonezawa Dia Electronics Co., Inc.

Manufacture of printed circuit boards, auxiliary materials for processing

Address: 446-3 Hachimanbara 3-chome, Yonezawa-shi, Yamagata 992-1128, Japan
Tel: +81-238-28-1345

Yuh Miyauchi
President & CEO

Our company, located on the Okitama Basin and surrounded by the Iide and Azuma Mountains, is aiming to construct systems with strong awareness of environmental pollution prevention. While we confirm the operating status of manufacturing and utility equipment every day through occupational health and safety patrols and environmental patrols, we are working to implement emergency response drills at every workplace and to enhance awareness of safety management and environmental conservation.