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CSR Report **2011**

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 2011' 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, 2010 through March 31, 2011 (includes some activities after April 2011).
However, Responsible Care (RC) activities are included from 1 January, 2010 – December 31, 2010 (includes some RC activities in 2011).

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: February 2012
Date of next scheduled publication: October 2012

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

The Great East Japan Earthquake and subsequent nuclear power plant accident subjected Japan to a trial unlike any other in recent years. All of us at MGC offer our sincere condolences for the many lives lost in the disaster, as well as our sympathies for the victims forced to live as refugees.

Within the MGC Group, our Kashima Plant and our subsidiary Electrotechno Co., Ltd. suffered damage, and the supply of major products was delayed for some time. The unfortunate result was considerable unease placed upon our stakeholders. Yet with the support of devoted efforts by many concerned parties, all of our workplaces had returned to normal operations by the end of June. I would like to take this opportunity to offer my deepest gratitude.

Looking ahead 10 years to the 50th anniversary of our founding (2021), we are currently engaged in our medium-term management plan titled MGC Will 2011. A company can record sales and profit only when it can fulfill its social responsibility. The disaster was an opportunity for us to reaffirm the degree to which our Group exists only through the support of so many people, and the degree to which our products play an important role for our customers. Based on the lessons of this experience, we hope to meet the expectations of the community more than ever, and grow sustainably toward the desired MGC Group in 2021.

The time has come again to issue a new CSR Report following up on last year's report. As a chemical manufacturer, our company always takes into account the impact of our current business activities on future generations, based on the principle of sustainable development. At the same time, we continue to provide a variety of materials boasting high performance and originality, and through that core business, hope to strengthen our presence as a company that is truly needed by society.

Toward that end, in FY 2010 we again made efforts toward goals such as prevention of global warming, reduction of environmental impacts, and reduction of wastes, all with solid results. In addition, the Group as a whole is setting key policies and annual plans as it makes efforts in areas including occupational health and safety, process safety, and chemical and product safety. Our achievements in these areas are detailed in the Responsible Care and

MGC section.

We have also strengthened our efforts in corporate governance, compliance, and risk management in accordance with the needs of the times. Yet due to the recent massive disaster, we must appropriately review details, such as the establishment of business continuity plans, in the light of practical realities. In this manner, we believe that the essence of CSR activity is the steady building of continuous improvements under the PDCA cycle, with respect to each and every issue we face.

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
November 2011

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, 2011)

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, 2011)

Number of employees
2,331 (non-consolidated), 4,979 (consolidated)

Number of consolidated subsidiaries 38

Main business sites in Japan

Branches
Osaka branch

Overseas offices
Shanghai Office, Taiwan Office

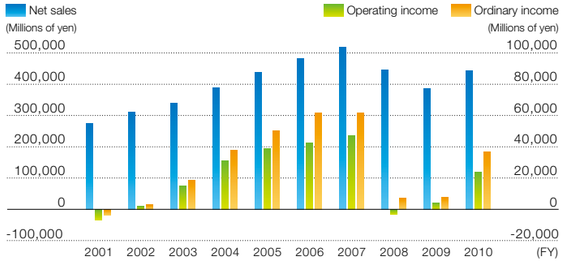
Research institutes
Tokyo Techno Park (Tokyo Research Laboratory, MGC Chemical Analysis Center), Niigata Research Laboratory, and Hiratsuka Research Laboratory

Plants
Niigata Plant, Mizushima Plant, Kashima Plant, Yokkaichi Plant, Yamakita Plant, Naniwa Plant, and Saga Plant

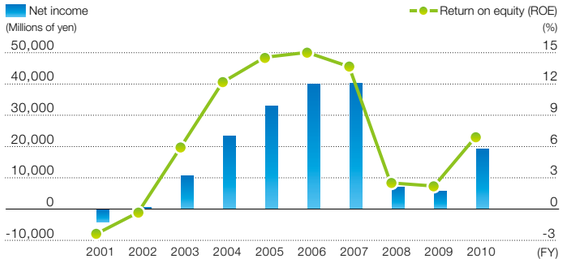
Tokyo Techno Park (TTP) opened in October 2009. This urban research and development center is responsible for the study of specialty chemicals and advanced materials.

Financial highlights (Consolidated)

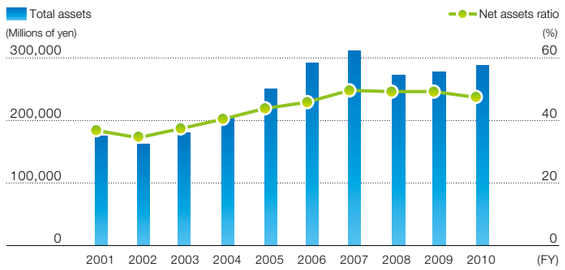
Net sales / Operating income / Ordinary income



Net income / Return on equity (ROE)



Total assets / Net assets ratio



Medium-Term Management Plan MGC Will 2011

Aiming to produce sustainable growth as a highly differentiated, widely recognized chemicals group operating from a strong platform of proprietary technology.

Kyoso 2008
(FY 2006 – 2008)

(MGC's previous medium-term plan)
Kyoso literally means 'collaborative innovation.'

- Achieved record earnings in FY 2006 and FY 2007
- Lost growth momentum in FY 2008 with impact of global recession

MGC Will 2011
(FY 2009 – 2011)

- First stage toward the desired MGC Group of 2021
- Return to a growth path

The desired MGC Group in 2021, ranked in the Global Top 30

Sales exceeding ¥1 trillion

* 2021 will be MGC's 50th anniversary.

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

Natural Gas Chemicals Company

Natural Gas Chemicals

Includes a wide product lineup, spanning from core 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 and geothermal development.

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

Aromatic Chemicals Company

Aromatic Chemicals

Develops unique 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 derivative of metaxylene that is used for PET bottles and food packaging because of its excellent gas barrier property.

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

Specialty Chemicals Company

Inorganic Chemicals

Develops a range of products from industrial-use hydrogen peroxide to chemicals for use in the electronics industry and environmental agents. Also involved in the development of resinous material for functional thermal curing, and has a product lineup that ranges from monomers for high refractive index plastic lenses to 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

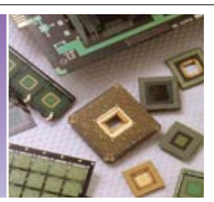
Engineering Plastics

Mainly involved in development of engineering plastics, including polycarbonate and polyacetal. Also develops special polycarbonate for specific applications such as optics as well as polycarbonate sheet & film with excellent surface coating technology.

Major products
Polycarbonate lupilon®, Polyacetal lupital®, Polyamide MXD6 Reny®, Polycarbonate sheet lupilon® sheet, Special polycarbonate lupizeta®

Information & Advanced Materials Company

Electronic Materials



Mainly involved in laminate materials for printed circuit boards and entry sheets, used in mechanical drilling of printed circuit boards. Its core product BT laminate material led the move towards using plastic material for semiconductor packaging, and it still remains synonymous with semiconductor package boards.

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

Oxygen Absorbers

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®, and desiccant AGELESS DRY®

MGC places importance on original technology and is engaged in the research and development of products that contribute to society.

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. Drawing on this thinking, MGC has a tradition of corporate culture that cherishes original technology, and has used and evolved core technologies created over many years to develop new technologies and materials ahead of their time, and has thus responded to the demands of society.

Today, using our catalyst, synthesis, polymerization, mixing, processing, and bio technologies, MGC is advancing research & 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.

At the same time, we are also undertaking development of technologies and products that contribute to the environmental and energy problems facing the world, life science-related product groups that meet growing health consciousness, and product groups related to the ever-evolving field of information electronics. In the future we will focus even more on these areas.

R&D goals and targets

Creation of businesses for growth sectors

- IT
- Environment and energy
- Functional chemicals
- Specialty chemicals
- Life science

Reinforcement of production processes in existing businesses

- Energy savings, CO_2 reduction
- Cost reduction

Deepening of technologies and securing of competitive edge

- Pursuit of ultimate technology
- Practical use of technology platform

R&D Strategy

Technology platform and main products

Catalyst	Synthesis	Polymerization	Functional products	Bio
Superacid / Oxidized solid catalyst / High pressure	Air oxidization / Liquid-phase oxidization / Hydrogenation	Condensation polymerization / Bulk polymerization / Oxidization polymerization / Films and sheets / Resin treatment	Oxygen absorber-related / Varnish-related / EL chemical-related	Continuous cultivation / Breeding
Xylene separation and isomerization / Methanol / Methyl methacrylate / Ammonia / Dimethyl ether / Aromatic aldehydes	Hydrogen peroxide / Naphthalene dicarboxylic dimethyl / Neopentylglycol / Purified terephthalic acid / Meta-xylenediamine	Polycarbonate (lupilon®) / Polyacetal (lupital®) / MX Nylon / Special polycarbonate (lupizeta®) / Modified PPE (lupiace®) / Resin forming	Oxygen absorber (AGELESS®) / Printed circuit board materials / Environmental agents / Electronics chemical agents / BT resin / Chemical polishing agents	Coenzyme Q10 (BioQ10) / Catalase (ASC super) / Specialty amino acids

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 is divided into Company R&D and Corporate Research. Company R&D conducts new product development based on existing products and technologies, and improvement of processes for existing products. Corporate Research aims to create future core businesses from a longer-term perspective, and is carried out at all laboratories.

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

Research Divisions	Company R&D				Corporate Research
Company / Division / R&D Department	Natural Gas Chemicals Company	Aromatic Chemicals Company	Specialty Chemicals Company	Information & Advanced Materials Company	Corporate Division
Tokyo Research Laboratory, R&D Department of Yokkaichi, Kashima Yamakita Plant			●	●	●
Niigata Research Laboratory, R&D Department of Niigata Plant	●	●			●
Hiratsuka Research Laboratory, R&D Department of Mizushima Plant	●	●		●	●
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

Born from R&D that leverages our core technologies, MGC products find use in environmental conservation, consumer lifestyles, and industry.

With our sights set on social issues and the future, MGC continues to create new technologies and new values. Below are examples of the products and technologies born from our endeavors.

Energy saving and CO_2 reduction through lighter products

MX nylon resin
Non-chlorinated resin with high gas barrier capability. Through the switch from glass bottles to lighter PET bottles for beverages, etc., this material contributes to the improvement of fuel efficiency in transport.

Reny® (Polyamide MXD6)
Used for side mirror stay of vehicle, contributing to the energy saving by light weight property.

Iupiace® (Modified polyphenylene ether)
Mainly used for office automation equipment, this resin contributes to improved fuel efficiency in transport by enabling lighter products.

Water purification

Diafresh® series
This series includes chemicals to greatly reduce volumes of sludge produced and chemicals to enable fluoride separation, contributing to water purification.

Deslime®, Contlime®
Water treatment agent for recycled cooling water in piping, contributing to both the cleaning and long-life of said water, and high thermal efficiency.

Reduction of wastes

AGELESS®
Agent keeping quality and freshness in food sector and, as a result, reducing waste of foods and contributing to efficiency of production and distribution.

RP System®
Oxidation and corrosion resistant system for metals and electronic parts, contributing to reduction of waste.

PharmaKeep®
Agent keeping quality and performance in medicines and medical devices, improving their shelf life, and contributing to reduction of waste.

Clean energy

Dimethyl ether (DME)
Application of clean fuel DME made from natural gas to diesel fuel, etc.

Fuel cell
Development of methanol fuel cell which enables direct electricity generation without fuel reforming into hydrogen. Under test of introduction as a power supply for welfare electric vehicle.

Geothermal power generation
Contributes to the application of geothermal steam to electric power generation.

Environmental improvement

Persulfates
Contribute to cleaning up contaminated underground water and soil.

Mild Fenton method
Soil / underground water clean up technology that decomposes organic substances under neutral conditions in combination with hydrogen peroxide and catalyst.

Neofade® (damping material)
High performance damping material, contributes to preventing vibration and noise.

DEOPOWER (deodorizer)
Deodorant agent that contributes to solving the issue of bad odor at sewage-treatment plants, etc.

Reduction of environmental risk

Hydrogen peroxide
Substitute for bleaching agents containing chlorine, used in a pulp and paper production process.

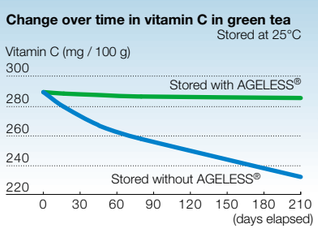
Materials for printed circuit boards
Including heat resistant materials for printed circuit boards suitable for lead-free solder, printed circuit boards without brominated flame retardant, and others.

AGELESS®

Oxygen absorption technology that prevents degradation in a variety of products

This oxygen absorption technology takes advantage of the property by which iron rusts on contact with oxygen, to create an oxygen-free state. This state prevents the oxidation of food and the growth of mold, preserving flavor and freshness. Unlike food additives, the technology is safe in that it does not make any change in the food itself. MGC's oxygen absorber AGELESS® extends shelf life and also contributes to the reduction of waste.

Change over time in vitamin C in green tea
Stored at 25°C

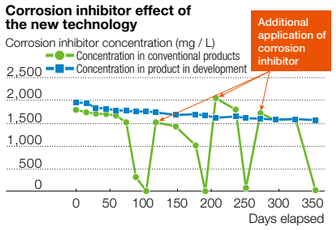


Diafresh® series

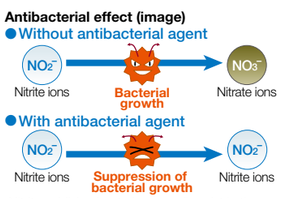
Water treatment utilizing patented technology to deliver antibacterial agents into corrosion inhibitors

Nitrite-based corrosion inhibitors have been known for their performance, but have a fatal flaw in that they lose effect in the presence of nitrous acid-oxidizing bacteria. MGC has developed technology that addresses the flaw to maintain full performance (registered patent no. 4715987). MGC is working to develop the world's first water treatment chemical applying this technology.

Corrosion inhibitor effect of the new technology



Antibacterial effect (image)



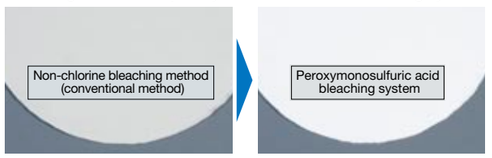
Nitrite oxidizing bacteria generally exist in the natural environment as soil bacteria.

Hydrogen peroxide

Bleaching pulp without chlorine: peroxymonosulfuric acid system

While chlorine has been used over the years to bleach pulp, in recent times its considerable environmental impact is spurring a switch to more environmentally friendly non-chlorine bleaching methods. However, pulp manufactured through non-chlorine bleaching methods combining hydrogen peroxide, oxygen, ozone, and other inputs suffered from the problem of yellowing over time. MGC pinpointed the cause of the yellowing as hexenuronic acid (HexA) in the pulp, and identified peroxymonosulfuric acid as a chemical for efficiently removing HexA. In the past, peroxymonosulfuric acid's instability also required it to be manufactured directly at the site of use. However, MGC became the first in the world to succeed at producing the substance on an industrial scale. For this technology, MGC and Oji Paper Co. jointly received the 39th Sasaki Prize conferred by the Japan Technical Association of the Pulp and Paper Industry.

Difference in post-bleaching changes between non-chlorine bleaching method and peroxymonosulfuric acid bleaching system

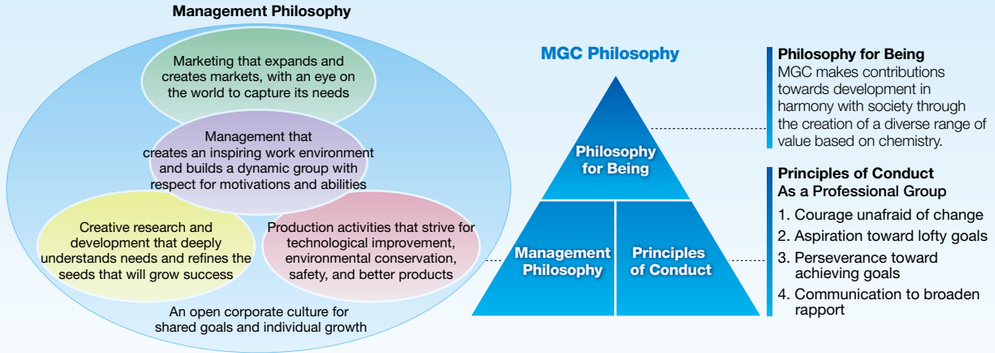


MGC's Efforts in CSR

In October of 1991 we put in place the "MGC Philosophy for Being," followed in December of 1997 by the "MGC Corporate Behavior Guidelines," as a way for our company to gain the trust and understanding of society while ensuring that we could foster confidence and pride among our employees. Then in November 2007, we undertook a major revision of the "MGC Corporate Behavior Guidelines" to incorporate a more assertive Corporate Social Responsibility (CSR) function that plays a critical role in ensuring MGC's continued development as a healthy company.

We are committed to the CSR activities in our medium-term plan—MGC Will 2011—launched in 2009 as part of our CSR program.

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

Group Vision—'MGC Will 2011' Medium-Term Plan

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 the Company's Board of Corporate Auditors and will develop effective corporate governance through appropriate disclosure of management information.

Overview of Corporate Governance Structure

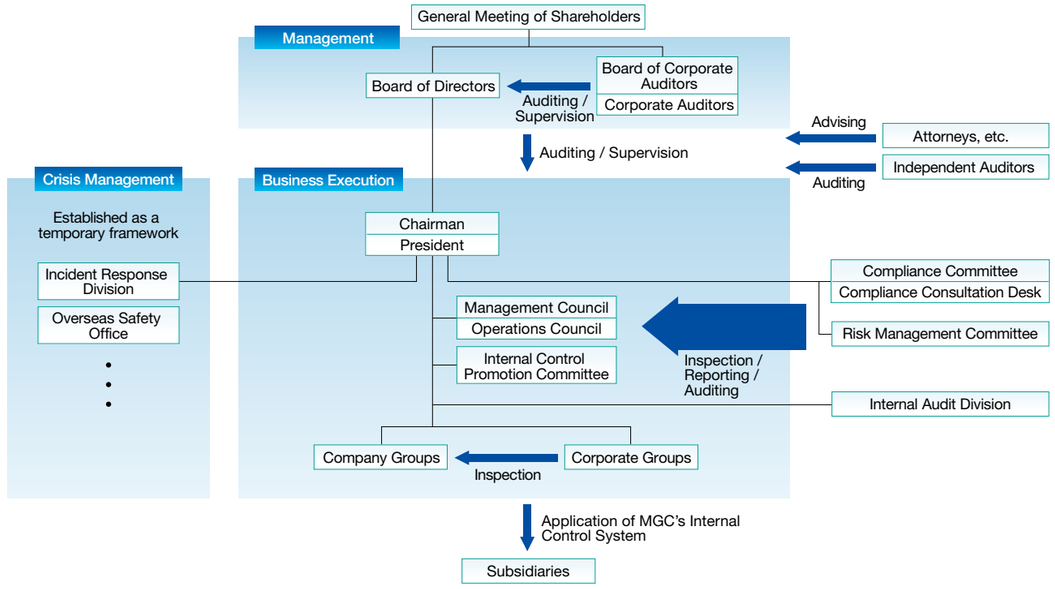
The current management structure consists of 10 directors and 22 executives (including people who concurrently serve as directors).

Any important matters affecting MGC are to be reviewed and decided with a broader perspective at management meetings where management policy may be discussed, and at executive officer meetings 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 corporate auditors, three of whom are external. They attend important meetings as well as board meetings, conduct audits on 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 auditors conduct inspections of our business operations. The auditors hold regular meetings with the CEO, and receive status reports from directors and employees on a regular basis or ad-hoc basis when concerning important matters, and may request surveys or reports concerning business compliance. The auditors 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, we have established an Internal Audit Office that is separate from the statutory auditors. This office oversees the execution of MGC and MGC Group companies to ensure adherence to our 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.

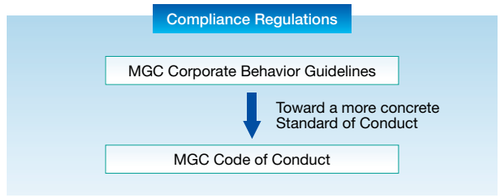
MGC Group Compliance

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

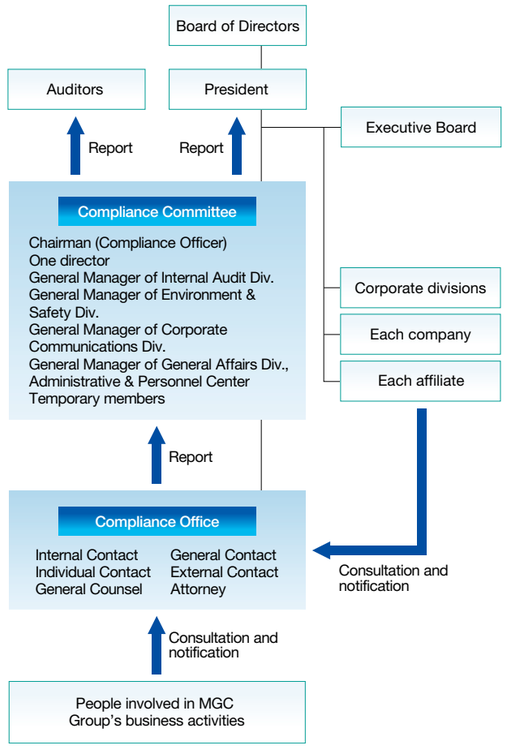


Compliance System and the Initiatives

At MGC we have 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 non-compliance 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

MGC created a Risk Management Committee in 2006 to respond to various risks related to our business activities. This committee helped to raise awareness of risk management’s importance by conducting seminars for senior management and for all employees at every MGC offices. The committee identified risks specific to each business sector, and created a detailed list of hundreds of risks for further evaluation.

In 2007, we selected the pressing risks among the listed in order to prioritize them and consider potential solutions, and formulated a Business Continuity Plan (BCP).

Since 2008, we have worked to ensure that risk management permeates even deeper within the company, while at the same time implementing measures to reduce potential risks, and re-evaluating the BCP on an ongoing basis.

Risk Management Promotion System

The Risk Management Committee, headed by the risk management officer, is responsible for assessing and prioritizing the status of risk management and providing instructions and supervision to the appropriate division so that mitigating actions can be taken.

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

At MGC, all of our facilities cooperate closely in the formulation of business continuity plans (BCP) that ensure the company can cope with such company-wide risks as caused by earthquakes, poisons, hazardous material leaks, fires, explosions, and information leaks.

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 each office with satellite phones and radiotelephone so that we are able to contact each office even in the event of 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 headquarter’s function.

Response to the Great East Japan Earthquake

Immediately after the Great East Japan Earthquake that struck on March 11, 2011, MGC established an Earthquake Response Task Force and worked to confirm the safety of employees and ascertain the damage situation throughout the Group. Following that, we worked to procure and deliver materials in short supply at damaged workplaces and affiliate sites, and provided support for the quickest possible recovery of supply chains. During that time we also made continuous efforts to provide information inside and outside the company regarding our damage situation and our recovery schedule.

MGC will reflect the lessons learned from the earthquake in our business continuity planning, and thereby enhance our readiness for disaster risks and our ability to respond in the event that risks materialize.

MGC also provided daily necessities and donations as support for the affected area. We will consider additional support activities based on the needs of the community.

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.

Safekeeping of cultural properties

MGC provided its RP System® free of charge for the temporary storage of cultural properties damaged by the tsunami that accompanied the Great East Japan Earthquake.


Scroll from Ryuzoin Temple (Kashima City, Ibaraki Prefecture) wrapped by the RP System®, for mold protection and safe storage until restoration

Neighborhood council briefings

Our workplaces undertake active communication every year with neighborhood councils, through briefings and study tours.


Kashima Plant / Briefing and study tour for neighborhood council

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).

In November 2010 the Mizushima Plant took part in the 7th Okayama District Local Dialogue Meeting, and in February 2011 the Kashima Plant took part in the 7th Kashima District Local Dialogue Meeting.

Kashima District Local Dialogue Meeting

Okayama District Local Dialogue Meeting

Donation of science kits

To help students become more interested in science, 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.

In 2011, we also donated kits to elementary and junior high schools in the Tohoku region that faced shortages of school supplies after the Great East Japan Earthquake.

Content of science experiment kits

Facility tours

In response to requests from neighborhood schools, we organize tours for students to be conducted at our facilities.


Niigata Research Laboratory / Local university and vocational high school students taking a tour of facilities

Mizushima Plant / Local technical high school students taking a tour of facilities

Support for training

With the participation of visitors from external organizations, our workplaces conduct lectures and study tours. In addition, from April 2010 our Niigata Research Laboratory dispatched a researcher to the Niigata University Faculty of Science as a lecturer for half a year.

Yokkaichi Plant / Receiving training under the Waste Management for Promoting a Recycling-Oriented Society in Venezuela course, as part of region-specific JICA training

Environmental cleanup activities at workplace surroundings

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

Tokyo Techno Park / Cleanup of workplace surroundings

Hiratsuka Research Laboratory / Planting tulip bulbs together with elementary school students at Banyu Fureai Park along the Sagami River

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 customer 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 towards a modal shift. Moreover, from a compliance standpoint we conduct audits of our partner companies and strive to build even stronger relationships with them.

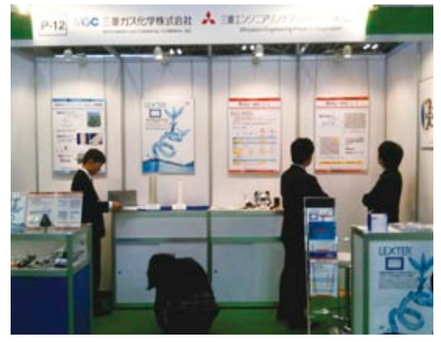
In addition, each of our offices conducts a Safety Day together with partner companies, enhancing safety awareness.

Reducing CO_2 emissions through modal shift

Participation at tradeshow

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.

As an example, at Eco-Products 2010 in December of last year, MGC exhibited a newly developed nylon made from plant-derived materials, both to broadly announce the product and to tailor product development to customer needs.



MGC booth

Together with Stakeholders

Employees

Personnel system and human resources development

MGC's management concept is, "making contributions towards 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 objective management. 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.

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 2006	FY 2007	FY 2008	FY 2009
Number of new employees	24	47	69	84
Number of employees at third year after joining, as of April	24	47	69	81
Retention	100.0%	100.0%	100.0%	96.4%

Employee tenure (as of March 2011)

	Male	Female	Total
Average age	41 years old and 7 months	41 years old and 3 months	41 years old and 6 months
Average continuous tenure	19 years and 0 months	18 years and 10 months	19 years and 0 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 2007	FY 2008	FY 2009	FY 2010
Workers desiring re-employment	77	65	68	44
Re-employed workers	77	65	68	44
Re-employment rate	100.0%	100.0%	100.0%	100.0%

Support for social contribution activities

We take pride in the fact that our employees contribute to various social activities in their everyday lives. In 2009, to encourage more social activities, we introduced a special paid leave such as "volunteer holiday" or "donor holiday."

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.

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.

Maternity leave

	FY 2007	FY 2008	FY 2009	FY 2010
Number of employees on maternity leave before & after birth	6	5	4	3
Number of employees on childcare leave*	5	6 (1)	4	4 (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 2007	FY 2008	FY 2009	FY 2010
Employee exercising leave	1	1	0	1

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

MGC holds results presentations for securities analysts and institutional investors following the announcement of its interim and year-end financial results, in addition to conducting tours of its facilities. In FY 2010, a tour of Hiratsuka Research Laboratory was arranged.

The interim results briefing in March 2011

Hiratsuka Research Laboratory tour

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 company.

Fundamental Policies on Environment and Safety

MGC, 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
- Providing support to subsidiaries and affiliates in implementing their own RC activities
- Continuously improving our RC management system

  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.

RC Medium-Term Plan 2014

In 2010 we concluded our RC Medium-Term Plan 2010. In 2011 we established a new RC Medium-Term Plan 2014, and are enacting initiatives to achieve its targets.

* Description of Distribution Safety, Dialogue with Society and RC in general, has been omitted.

RC Code	RC Medium-Term Plan 2014 (2011 – 2014)
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.
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 to below 75% of the FY 1990 level. ■ Reduce emissions of PRTR substances and VOCs. • Focus reductions on substances with high emissions volumes. ■ Achieve zero emissions of waste. (Zero emissions: Implement the 3Rs to reduce final disposal of generated wastes to 0.3% or less by weight.) ■ Workplaces that achieve zero emissions will further reduce the final disposal volume.
Chemical and Product Safety	■ Provide product safety information. • Reflect up-to-date information in MSDS. ■ 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.

Message from the Director in Charge of Environment and Safety

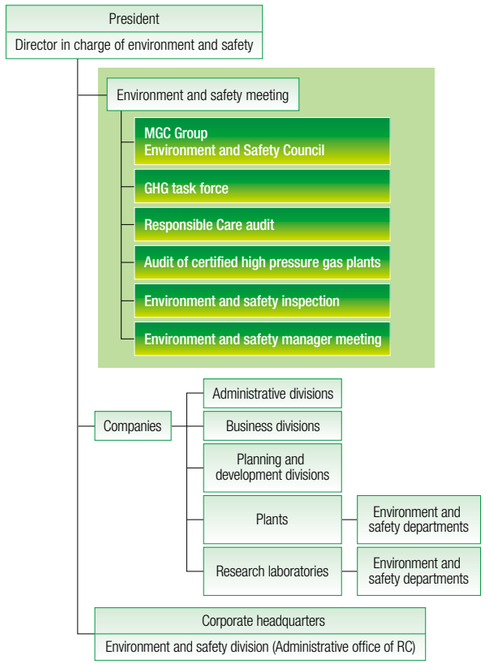
Three years ago, MGC launched a company-wide project, the AZ Project, aimed at eradicating accidents and fostering a culture of safety. For the three years from 2011, we will continue to focus on our plants under initiatives aimed at achieving specific results. In terms of environmental issues, we are continuing our efforts to meet the numerical targets we set for each area of reduction of industrial wastes, emissions of chemical wastes, and energy saving. In addition, we are refining our processes and manufacturing technology to consume less energy.

The Great East Japan Earthquake that occurred on March 11 highlighted the many challenges that lie within Japan's safety and environmental policies. With many plants located in areas susceptible to large-scale earthquakes, the MGC Group is taking the lessons learned from this earthquake to rethink our manufacturing facilities risks, our disaster prevention equipment, our tsunami countermeasures, and the functions of our anti-disaster headquarters. As a matter of our corporate responsibility, we will consider measures to minimize the damage from disasters.

Makoto Mizutani
Managing Executive Officer

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 2010

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 2010, the audit focused on our initiatives to eradicate accidents, our pollution prevention management, and our initiatives to reduce emissions of chemical substances.

- **Audit period**
  July — October, 2010
- **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 (0 cases)
  Improvement orders (19 cases)
  Comments (26 cases)
- **Follow-up issues identified in previous year**
  We monitored the handling of items identified at workplaces in the previous year to confirm that proper measures have been taken.

Niigata Plant / Overall audit

Hiratsuka Research Laboratory / Confirmation of documented evidence

Results and Plans for RC Activities

MGC formulates RC Medium-Term Plans, and establishes yearly plans in pursuit of achieving those goals. It then evaluates the results of the activities to help the company meet its designated targets.

* Description of Distribution Safety, Dialogue with Society, and RC in general has been omitted.
★★★: Achieved ★★: Mostly achieved ★: Further efforts required

RC Code	RC Medium-Term Plan 2010 2006 – 2010	2010 RC Action Plan		2010 Achievements	Medium-Term Plan Assessment	RC Medium-Term Plan 2014 (2011 – 2014) 2011 RC Action Plan
Occupational Health and Safety **Process Safety and Disaster Prevention**	■ Achieving zero occupational injuries ■ Achieving zero accidents	1. Continue daily activity (hazard foreseeing activities, *Hiyari-Hatto* (near miss) identification activities, 5S activities). 2. Practice risk assessment. 3. Establish AZ Project activities. • Construct a safety education system. • Enhance communications. • Improve management of aging facilities (including piping). 4. Devise emergency response training. 5. Improve guidance for partner companies' occupational injury prevention.		Zero occupational injuries and accidents: Not achieved 1. We devised measures to improve participation in exposing near misses in ongoing daily work. 2. We perform safety inspections in advance for equipment and to identify the risks of near misses. 3-1. We are constructing process safety education systems specific to each employee level. 3-2. As a part of our communications, we undertake initiatives to share what was gained from these experiences. 3-3. We conduct systematic inspections and enact countermeasures (block and line management) aimed at areas with corrosion. 4. We devised and implemented emergency response drills at all workplaces (including unannounced drills, no-scenario drills, nighttime rapid response drills, and earthquake bulletin-based drills). 5. We provide partner companies with safety education and education prior to periodic maintenance, and performed safety audits and safety inspections of partner companies at a number of plants.	★	1. Continue daily activity (hazard foreseeing 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.
Environmental Preservation	■ Reduce the energy consumption rate index to below 85% of the FY 1990 level. ■ Reduce the greenhouse gas emissions rate to below 80% of the FY 1990 level.	1. By working on energy saving measures while ensuring the stable operation of each process, we aim to achieve the Medium-Term Plan goals for energy consumption rate index improvement and reduction of the greenhouse gas emissions rate.		1. Energy saving Despite a 5.5% year-on-year improvement in the energy consumption rate index in FY 2010, the resulting 94.1% energy consumption rate index compared with FY 1990 failed to meet the target of the Medium-Term Plan (85% of the FY 1990 level). As a measure to save energy, we implemented an annual reduction in excess of 1%. 1. Greenhouse gases The greenhouse gas emissions rate in FY 2010 saw a 5.9% year-on-year improvement, with the resulting 79.3% emissions rate compared with FY 1990 meeting the target of the Medium-Term Plan (80% 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.
	■ Reduce PRTR substances emissions by 10% over FY 2004 levels. ■ Reduce VOC emissions by 10% over FY 2004 levels.	1. Identify key PRTR substances (including pseudocumene*) and VOCs that need to be reduced, then devise and execute a reduction plan with specific target values. * 1,2,4-Trimethylbenzene		1. For sites with high substance emissions, we have created and executed plans for reducing substances such as pseudocumene, dichloromethane, methanol, hydrogen fluoride and its water soluble salts, and xylene. On a basis prior to legal revision, we have reduced our emissions of Japan Chemical Industry Association PRTR substances by 43% from the FY 2004 level. The equivalent reduction in VOCs was 44%, achieving the Medium-Term Plan's target. Pseudocumene emissions, which have been targeted by the revised law, were 446 tons, a reduction of about 7% from the FY 2009 level.	★★★	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.	1. Zero emissions of waste • Sites where targets have been met will continue their efforts to further reduce final landfill. • Sites where targets were not achieved will set a landfill reduction target and strive to achieve zero emissions.		1. We achieved zero emissions at 6 production sites in FY 2010. Final landfill at our production sites totaled 97 tons, a reduction of 27% compared with FY 2009's total of 134 tons.	★★	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	■ Offer up-to-date Material Safety Data Sheets (MSDS). • Support for the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).	1. GHS support (JIS compatible) for MSDS will be implemented by December 2010 and will be offered to customers.		1. We completed GHS support for MSDS and provided these to customers.	★★★	1. Reflect up-to-date product safety information in MSDS. (provide accurate information on hazards to customers, etc.)
	■ Perform product safety assessments. • Participate in Japan Challenge Program (Check existing chemicals). • Comply with REACH regulation. • Assess new substances appropriately. ■ Promote the development of environmentally friendly products and energy saving technologies.	1. Respond appropriately to the Japan Challenge Program. 2. Respond appropriately to the REACH regulation, including Europe's new CLP rules. 3. Promote safety assessment during new product development (e.g., acute toxicity, Ames test, primary skin irritation). 4. Promote development of products with lower environmental burden and energy saving technologies.		1. We are participating in 4 substance safety information programs and are proceeding according to plan. 2. In conformance with REACH regulation, MGC completed registration of two substances which have 2010 registration deadlines and for which MGC is the lead registrant. MGC is also in the process of addressing products subject to CLP regulations. 3. We conducted 33 cases of safety testing for new products in 2010 (acute toxicity, 9 cases; Ames, 13 cases; primary skin irritation, 11 cases). 4. We launched a new catalyst and a hydrogen peroxide specifically for soil decontamination, and are conducting external PR for these products.	★★★	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.

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.

Phase II Launch of the Accident Eradication Project

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 AZ (Accident Zero) Project in February of 2008. Its goal is to firmly establish accident eradication activities during the project's three-year Phase I.

In the three years of the initiative through 2010, activities were standardized and established in research laboratories, while exploration of various activities and the development of new initiatives remain ongoing in plants. For that reason, we have decided to have plants continue focused activities under Phase II of the AZ Project (hereinafter "AZ Step II").

1. Priority objectives
Eradicate accidents and occupational injuries

2. Key policies
(1) Improvement of on-site capabilities of individuals and organizations
1. Discussion of ideal operation for factories, and working group activities
2. Improvement of communication
3. Continuation and strengthening of communication among plants

(2) Prevention of equipment and operational troubles through cooperation with the Production Engineering Division
1. Stabilization of operations
2. Introduction of TPM activities
3. Pursuit of effective corrective measures
4. Enhancement of equipment management training
5. Thorough use of flow sheets (P&ID)

3. Project period
Three years from 2011

4. Numerical targets
Achieve zero accidents by the end of the final year of AZ Step II (2013)


Mizushima Plant / Unannounced patrols by the Plant Manager


Kashima Plant / Patrols by the Division Chief


Niigata Plant / Hands-on safety technique training

Yokkaichi Plant / Point-and-call activities

Occupational Health and Safety Initiatives

In order for MGC to achieve its no accident goal, each site must take part in daily safety activities (*Hiyari-Hatto* (near miss) activities, 5S activities, hazard foreseeing activities, etc.), in addition to our efforts directed at various educational drills and at occupational health and safety risk assessment.


Hiratsuka Research Laboratory / Nationwide Safety Week


Yamakita Plant / 5S report meeting


Yokkaichi Plant / Health and safety activity presentations


Niigata Research Laboratory / Emergency medical training

Safety performance

In 2010, occupational injury incidents resulting in lost time totaled one case at MGC, and three cases at partner companies.

Change in lost time injury frequency rate*1

	2006	2007	2008	2009	2010
MGC	0.92	0.59	1.43	0.57	0.28
Chemical industry	0.88	1.10	0.84	0.72	0.72
Manufacturing industry	1.02	1.09	1.12	0.99	0.98

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

Change in lost time injury severity rate*2

	2006	2007	2008	2009	2010
MGC	0.20	0.01	0.07	2.14	0.01
Chemical industry	0.10	0.04	0.07	0.13	0.04
Manufacturing industry	0.11	0.10	0.10	0.08	0.09

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

Preventing occupational injuries at partner companies

To prevent occupational injuries at partner companies, MGC conducts safety education and education prior to periodic maintenance, and also holds joint workplace round-tables and informational meetings with regular partner companies. In some plants, we also conduct audits and safety inspections of partner companies.

Mizushima Plant / Partner company participation in safety meetings

Process Safety and Disaster Prevention Activities

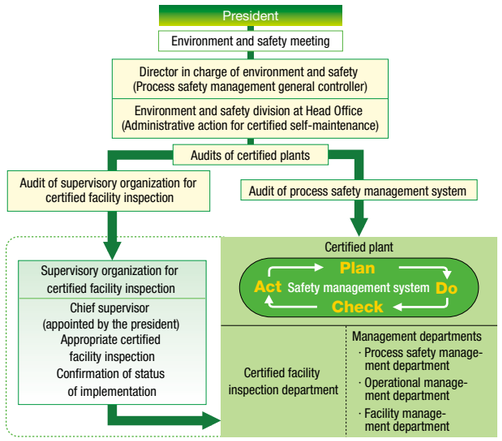
To prevent the occurrence of accidents and injuries, it is important to ensure the safety of production processes and the soundness of facilities. Moreover, it is critical that the company maintain safe operations. At each site we conduct inspections and renewal planning for aging facilities, and prioritize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

We are also undertaking preventative maintenance making use of M3 equipment management systems.

Major functions of M3
- Work management
- Inspection and maintenance planning and management
- Instrument management
- Search
- Statistics and analysis
- Construction management

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.



Disaster prevention drills in preparation for 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.


Tokyo Techno Park / Joint comprehensive drills with the Kanamachi Fire Station


Kashima Plant / CG leak scenario drills


Yokkaichi Plant / Launch of drills based on earthquake bulletins (joint comprehensive drills)


Hiratsuka Research Laboratory / Comprehensive drills for companies in the B Block of the Hiratsuka District


Mizushima Plant / Drills every July and November


Niigata Research Laboratory / Evacuation drills for earthquake scenarios, with participation by partner companies

Environmental Burden of Business Activities

The environmental burden of our business in FY 2010 is displayed in the table below. 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 2009	FY 2010*2
Number of production sites: 39	Number of production sites: 39

INPUTS		Units	FY 2009	FY 2010
Energy consumption including purchased electricity (crude oil equivalent)		1,000 kℓ	593	639
Water consumption		1,000 m^3	45,500	44,079
Breakdown	Tap water	%	2	2
	Industrial water	%	58	60
	Groundwater	%	3	4
	River water	%	34	31
	Others	%	3	3

OUTPUTS	Units	FY 2009	FY 2010
Emissions to atmosphere			
Greenhouse gas emissions (CO_2 equivalent)	1,000 tons	1,369	1,478
SOx emissions	tons	263	181
NOx emissions	tons	744	721
Soot and dust emissions	tons	24	35
Released to water area			
Drainage volume	1,000 m^3	37,785	36,613
COD emissions	tons	262	300
Total nitrogen emissions	tons	299	292
Total phosphorus emissions	tons	71	56
Generation of waste			
Transfer to off-site	tons	32,968	32,424
Final landfill	tons	1,580	1,558
Notified substances under PRTR Law*3			
Emissions (air)	tons	1,166	1,806
Emissions (water)	tons	46	18
Emissions (soil)	tons	0	0
Transfers	tons	738	1,075

MGC alone*2

FY 2009	FY 2010*2
Number of production sites: 8	Number of production sites: 8

INPUTS		Units	FY 2009	FY 2010
Energy consumption including purchased electricity (crude oil equivalent)		1,000 kℓ	493	536
Water consumption		1,000 m^3	40,475	38,860
Breakdown	Tap water	%	1	1
	Industrial water	%	57	60
	Groundwater	%	1	1
	River water	%	38	36
	Others	%	3	2

OUTPUTS	Units	FY 2009	FY 2010
Emissions to atmosphere			
Greenhouse gas emissions (CO_2 equivalent)	1,000 tons	1,166	1,269
SOx emissions	tons	174	151
NOx emissions	tons	680	668
Soot and dust emissions	tons	15	29
Released to water area			
Drainage volume	1,000 m^3	34,263	32,858
COD emissions	tons	226	260
Total nitrogen emissions	tons	273	269
Total phosphorus emissions	tons	68	54
Generation of waste			
Transfer to off-site	tons	7,392	9,933
Final landfill	tons	134	97
Notified substances under PRTR Law*3			
Emissions (air)	tons	190	626
Emissions (water)	tons	38	13
Emissions (soil)	tons	0	0
Transfers	tons	342	552

*1 The data used for the total of MGC Group is the sum of the main domestic manufacturing and processing businesses.
*2 Although MGC has set the Tokyo Techno Park as a non-production site from FY 2010, for reasons involving the final fiscal year of the RC Medium-Term Plan, data for FY 2010 is handled as a production site.
*3 Performance for FY 2010 incorporates an increase in volume due to an increase in the number of substances requiring notification under the revised law.

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 2010 was 880 million yen. The main items of that investment were the enhancement of tank vent gas recovery facilities at the Mizushima Plant, and the enhancement of fluoride fixation facilities.

Expenses

Total expenses related to environmental conservation activities in FY 2010 were 9.42 billion yen. Of these, the highest expense was 3.5 billion yen for research and development, accounting for 37% of the total. The next highest was 1.97 billion yen for prevention of water pollution, representing 21% 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

Generation of wastes and landfill volumes in FY 2010 declined from FY 2009. The results are shown on the Waste Reduction 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.	78
Reduction of expenses	Effects due to energy saving	181

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

Breakdown			Main areas of activity	Investment (millions of yen)	Expenses (millions of yen)
Onsite cost	Pollution prevention cost	Air pollution prevention	Renewal, repairs, and maintenance of emission gas scrubbers, etc.	142	618
		Water pollution prevention	Renewal, repairs, and maintenance of wastewater treatment facilities, etc.	124	1,977
		Soil, Noise	Prevention of soil infiltration, odor control, and low-frequency noise control	34	13
	Global environmental preservation cost		Maintenance of cogeneration facilities, reduction of energy loss	118	1,317
	Resources recycling cost		Material and thermal recycling of waste	22	1,268
Up or down stream cost			Retrieval and reuse of product containers	0	43
Management activity cost			Maintaining green spaces, maintaining environment management systems	32	548
R&D cost			Research and development of energy-saving technologies and environmentally friendly products	410	3,504
Social contribution cost			Greening the surrounding area, and support for environmental conservation organizations.	0	31
Environmental damage cost			Compensation for environmental preservation	0	107
Total				882	9,426

* **Compliance with the Ministry of the Environment's Environmental Accounting Guidelines 2005**
Period: From April 1, 2010 to March 31, 2011
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.
The progress of the Plant Manufacturing Division, the focus of the initiatives, toward the targets of the RC Medium-Term Plan up to FY 2010 is shown below.

Manufacturing Plant Initiatives

Under the RC Medium-Term Plan, through FY 2010 we worked toward the targets of reducing the energy consumption rate index to 0.85 or less compared to the FY 1990 level, and the GHG (greenhouse gas) emissions rate to 0.80 or less compared to the FY 1990 level. The resulting energy consumption rate index of 0.94 did not reach the target, but the GHG emissions rate surpassed the target at 0.79.

However, FY 2010 energy usage and GHG emissions volume themselves each increased by about 9% due to increased production.

Energy-saving measures in FY 2010 focused on equipment operations, such as optimization of operating conditions. The net result was an energy savings effect equivalent to 4,600 kℓ of crude oil. This corresponds to a reduction in GHG emissions equivalent to 9,500 tons of CO_2.

The RC Medium-Term Plan that runs from FY 2011 through FY 2014 has again set a goal of an energy consumption rate index of 0.85 or less compared to the FY 1990 level. We aim to achieve the target through further energy-saving measures, such as energy audits of steam equipment at plants and identification of improvement measures.

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.

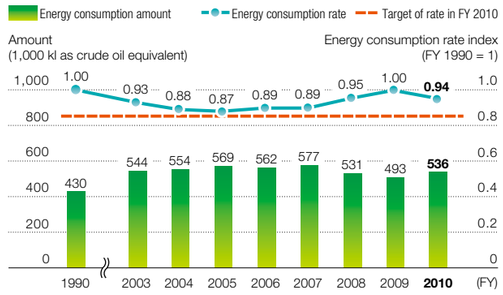
We are also promoting the switch to natural gas-related fuels, such as city gas and LNG, at locations other than our Niigata Plant, and year by year are raising the ratio of natural gas within our energy consumption.

In FY 2010, the ratio of natural gas-related fuels within our energy consumption reached 59%.

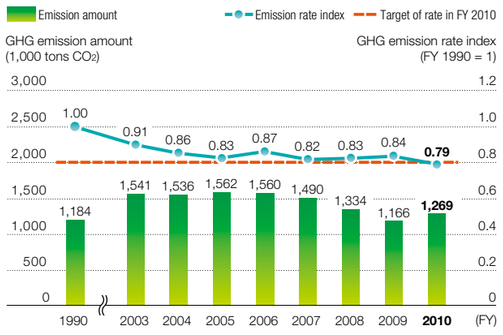
In addition, MGC is participating in a project in Hachimantai, Akita Prefecture, to supply geothermal steam to an adjacent power plant. Geothermal energy is a plentiful form of renewable energy in Japan, and is expected to see further development.

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 consumption amount and consumption rate



Trend of GHG emission amount and emission rate



Trend of energy source component ratio

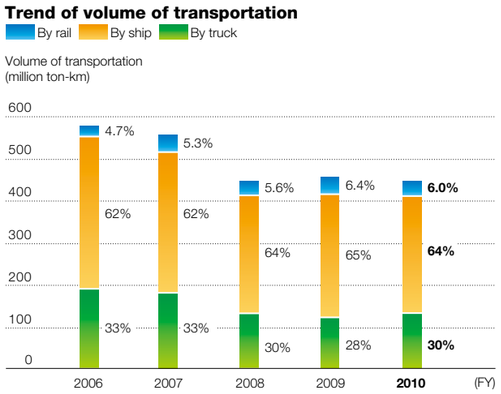
Initiatives in the Transportation Sector

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.

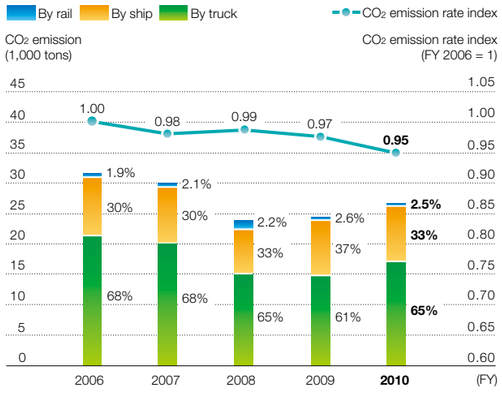
In FY 2010, CO_2 emissions increased along with the increased transport volume that accompanied production recovery, but our CO_2 emission rate index has improved by about 5% in the five years since FY 2006.

From here out, we are planning energy-saving measures that include greater lot sizes for ship transport and the shortening of shipping distances through a review of shipment sites.

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.

As a facilities-related measure in FY 2010, at the Hiratsuka Research Laboratory and at the head office we upgraded server room air conditioning equipment to high-efficiency systems.

In the employee residence area, we expanded our ongoing CO_2 reduction efforts and conducted energy-saving activities using a check sheet method unique to our company. Over 400 employee volunteers participated and achieved an average CO_2 reduction of a little over 2 kg per person (or household), amounting to a total reduction in CO_2 emissions of over 300 tons annually.

Electricity Conservation Measures

In response to the power shortage issues that occurred in the wake of the March 11, 2011 Great East Japan Earthquake, we undertook electricity conservation measures at all of our workplaces.

In the summer of 2011, especially at workplaces coming under the 15% electricity consumption restriction targeting high-demand electricity consumers within the region served by Tohoku Electric Power Co. and Tokyo Electric Power Co., MGC supplemented its regular electricity conservation activities with measures including a partial shift of work to weekends, cuts in peak electricity usage through production schedule adjustments, and installation of new in-house electricity generators.

At workplaces facing difficulties in making cuts on their own, we made plans to jointly achieve the 15% reduction target through grouping of workplaces. One grouping included five of our workplaces served by Tohoku Electric Power, centered around the Niigata Plant; and another grouping included three workplaces, the Yamakita Plant, Tokyo Techno Park, and the Hiratsuka Research Laboratory, served by Tokyo Electric Power. For this latter group, we made use of newly-installed in-house electricity generators from the Yamakita Plant. By implementing electricity usage reduction plans through these groupings, we greatly surpassed the initial target with reductions of 25-35%.

Yamakita Plant New in-house power generation system

Chemical Emissions

Under the RC Medium-Term Plan 2010, MGC undertook efforts to reduce emissions of volatile organic compounds (VOCs) and of chemical substances subject to notification of emission and transfer (Pollutant Release and Transfer Register, or PRTR). Doing so, we surpassed our initial targets for reduction.
Under the RC Medium-Term Plan 2014, we will again strive to reduce emissions.

Results of the RC Medium-Term Plan 2010

Under the RC Medium-Term Plan 2010, we set numerical targets and worked to reduce emissions of PRTR substances and VOCs.

To enable easy comparison with the benchmark year of FY 2004, the scope of the comparative totals is based on target chemical substances that the Japan Chemical Industry Association (JCIA) had set as voluntary targets for reduction (480 substances plus 1 substance category) prior to legal revision. We evaluate the results of the RC Medium-Term Plan 2010 by comparing FY 2004 results with FY 2010 results.

1. Reduction of PRTR substance emissions

RC Medium-Term Plan 2010
Reduction of PRTR substances by 10% compared with FY 2004

Emission of PRTR substances on the JCIA list

FY	FY 2004	FY 2010*	Reduction rate
Emission amount	507 tons	291 tons	42%
Number of substances	73	77	—

* Comparison is based on the same target substances in FY 2004.

As a result of continuing to reduce PRTR substance emissions in excess of targets, we reduced FY 2010 emissions by 42% compared with FY 2004.

2. Reduction of VOC emissions

RC Medium-Term Plan 2010
Reduction of VOCs by 10% compared with FY 2004

VOC emissions

FY	FY 2004	FY 2010*	Reduction rate
Emission amount	443 tons	248 tons	44%
Number of substances	20	21	—

* Comparison is based on the same target substances in FY 2004.

For VOCs we summed the emissions for PRTR substances on the JCIA list for which there was release into the atmosphere. For those emissions as well, as a result of continuing reductions in excess of targets, we reduced FY 2010 emissions by 44%compared with FY 2004.

Our reduction of both PRTR substance emissions and VOC emissions achieved the targets of the Responsible Care Medium-Term Plan 2010.

Revision of PRTR substances

A cabinet order revising a portion of the enforcement ordinance of the Law for PRTR and Promotion of Chemical Management (PRTR Law) was promulgated in November 2008. Under the revision, Class I Designated Chemical Substances (substances subject to confirmation of release and transfer amounts) were amended from 354 substances to 462 substances from April 1, 2010.

Accordingly, PRTR substances on the JCIA list, which are targeted for voluntary confirmation and reduction by the JCIA, are also being reviewed for confirmation of release and transfer from April 1, 2010. Following the revision, the JCIA target substances were changed from 480 substances plus 1 substance group (legally targeted substances prior to the legal revision, plus JCIA's own targeted substances) to 433 substances plus 1 substance group* (legally targeted substances with some substances, mainly agricultural chemicals, excluded, plus JCIA's own targeted substances).

* **1 Substance group:** Chain hydrocarbons having a carbon number between 4 and 8, excluding the 480 or 433 JCIA targeted substances.

Substances Subject to Notification under the Revised PRTR Law Enforcement Ordinance

In accordance with the revision of PRTR substances, the number of Class I Designated Chemical Substances subject to notification has increased to 462.

Company-wide, MGC made notifications in FY 2010 for 58 substances handled. Emissions for these substances totaled 640 tons, while transfers totaled 557 tons.

The equivalent FY 2009 statistics, for target substances prior to the legal revision (354 substances), were 45 substances with emissions totaling 228 tons and transfers totaling 345 tons. While direct comparison of the two years is difficult due to their differing scopes, an increase in total emissions accompanied the expansion of target substances.

PRTR Substances on the Revised JCIA List

The revised JCIA list of PRTR substances is 433 substances plus 1 substance category. Across the company, MGC handled 82 of these substances in FY 2010, with emissions totaling 768 tons and transfers totaling 2,436 tons.

The equivalent FY 2009 statistics, for target substances prior to the legal revision (480 substances plus 1 substance category), were 75 substances with emissions totaling 441 tons and transfers totaling 1,469 tons.

The increased transfer volume in FY 2010 is due to the halt of sales of waste acid, which was sold up through FY 2009, and its subsequent treatment as industrial waste.

RC Medium-Term Plan 2014

Under the RC Medium-Term Plan 2014, we are promoting the reduction of PRTR substance emissions and VOC emissions, focusing on substances with high emission volumes.

MGC considers the scope of its PRTR substances to be those substances subject to legal notification plus the JCIA target substances. With regard to VOCs, in addition to PRTR substances emitted to the atmosphere we are paying attention to volatile organic compounds that we handle in large volumes, as we strive to confirm volumes and reduce emissions.

Substances with high levels of emissions in FY 2010 included 1,2,4-trimethylbenzene (pseudocumene), dichloromethane, and xylene. We will focus on these substances as we take measures to reduce emissions.

PRTR Law substances with high levels of emissions (substances with emissions of 1 ton or more in FY 2010) (tons)

New reg. no	Chemicals	New*	FY 2010 results				
			Emission amount				Total volume of transfers
			Air	Water	Soil	Total	
296	1,2,4-Trimethylbenzene	○	466.6	0.0	0.0	466.6	48.0
186	Dichloromethane		100.7	0.0	0.0	100.7	5.8
80	Xylene		22.4	0.0	0.0	22.4	6.6
35	Isobutyraldehyde	○	9.3	0.0	0.0	9.3	0.0
300	Toluene		9.1	0.0	0.0	9.1	2.1
374	Hydrogen fluoride and its water-soluble salt		0.2	8.9	0.0	9.1	0.2
53	Ethylbenzene		5.1	0.0	0.0	5.1	0.0
392	n-Hexane	○	3.9	0.0	0.0	3.9	170.0
405	Boron compounds		0.0	2.3	0.0	2.4	1.2
297	1,3,5-Trimethylbenzene		2.2	0.0	0.0	2.2	15.0
56	Ethylene oxide		1.7	0.0	0.0	1.7	0.0
411	Formaldehyde		0.4	1.0	0.0	1.4	21.8
151	Dioxolane	○	1.0	0.0	0.0	1.0	0.0
—	Other chemicals		3.7	1.0	0.0	4.8	286.4
Totals for substances subject to PRTR Law			626.3	13.2	0.0	639.5	557.2

* ○ in the New column indicates a substance newly subject to notifications under legal revision.

Waste Reduction

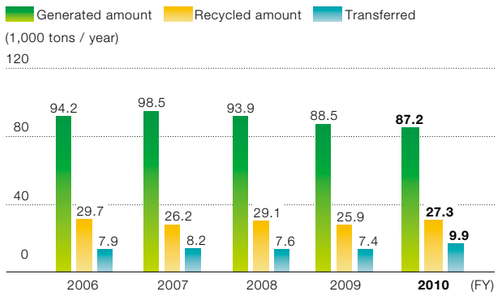
MGC promotes the 3Rs* and defines zero emissions as the reduction of final landfill to 0.3% or less of the volume of generated waste.
We set that as one of the goals to be achieved under RC Medium-Term Plan 2010, and undertook the reduction of landfilled waste volumes at every workplace.

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

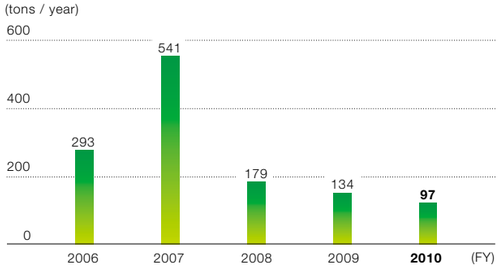
Waste Reduction Achievements

In FY 2010, total final landfill continued to fall year by year, reaching 97 tons. 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 2010, we achieved zero emissions at the five productions sites from the previous fiscal year, and also at the Kashima Plant. Our total for all production sites also continues to achieve zero emissions.

Plants achieving zero emissions in FY 2010

	FY 2009	FY 2010
Niigata Plant	0.18%	0.15%
Mizushima Plant	0.07%	0%
Kashima Plant	2.46%	0.19%
Yamakita Plant	0.01%	0.05%
Naniwa Plant	0.05%	0.27%
Saga Plant	0%	0%
Total of 8 production sites*	0.15%	0.11%

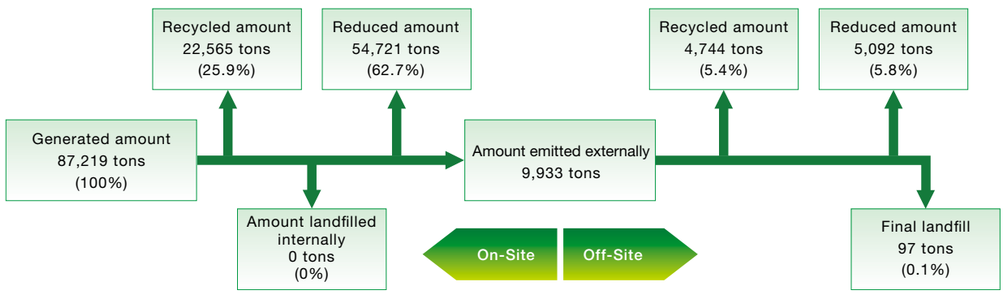
Zero emissions : Final landfill / waste generated = 0.3% or less
* Tokyo Techno Park is included among the 8 production sites.

Waste-related Goals in the RC Medium-Term Plan

Although not all workplaces achieved the RC Medium-Term Plan 2010 goal of zero emissions, the eight production locations as a whole were able to meet the goal.

Under RC Medium-Term Plan 2014, we will carry on the goal of achieving zero waste emissions, while also adding efforts to further reduce final disposal volumes at workplaces that have achieved the zero emissions goal.

Waste Treatment in FY 2010



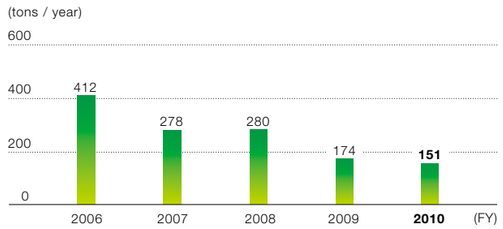
Air and Water Conservation

In order to preserve the air and water environments, MGC is making efforts toward further reduction of emitted substances, based on compliance with all applicable laws, regulations, ordinances, and the regulatory values set by these.

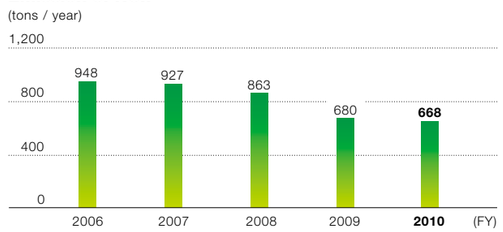
Prevention of Air Pollution

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.

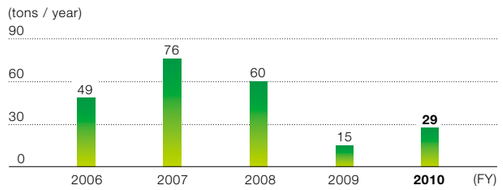
Emission of SOx



Emission of NOx



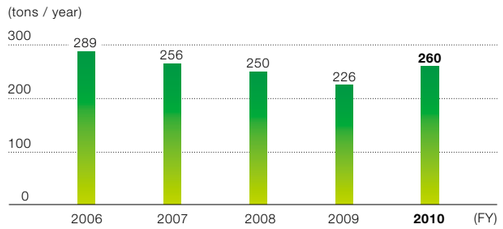
Emission of soot and dust



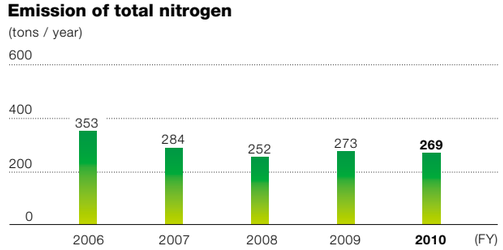
Prevention of Water Pollution

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, pH and other chemicals are within tolerance levels.

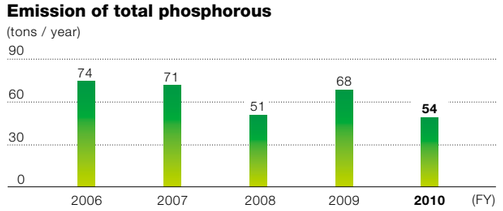
Emission of COD



Emission of total nitrogen



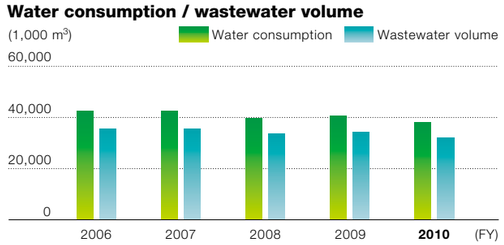
Emission of total phosphorous



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



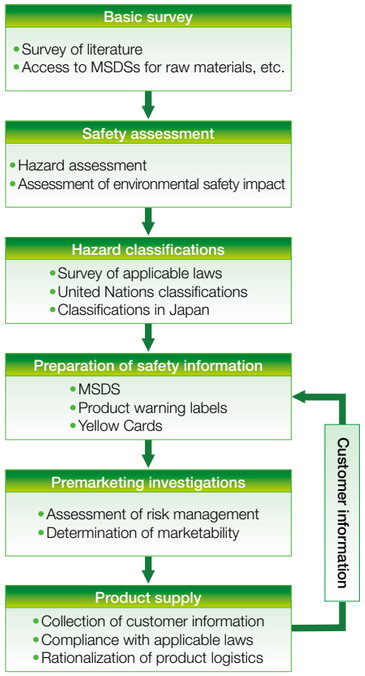
Safety Management of Chemicals and Products

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. Additionally, MGC participates in domestic and international chemical safety assessment activities that publicly disclose chemical safety information.

Safety Assessment of Chemical Substances and Products

MGC is committed to product development that considers environmental and safety issues over the entire life cycle of the product, from the research and development stage onward. For new products, we conduct basic surveys and safety assessments before making hazard classifications based on factors such as GHS*. We then prepare MSDS and other safety information. Based on the above, we conduct analysis and assessment of risks at each stage through to disposal of the product (i.e., assessment of the hazardousness of the product itself and of exposure to it), and finally offer the product after screening it for marketability.

* **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 MSDS documentation. Ultimately, the information contributes to accident prevention, human health, and environmental preservation.



Chemical and Product Safety Education

MGC conducts chemical and product safety education within its PL (product liability) education. In 2011, our education covers risk assessment, notifications for new chemical substances, and revisions to the Law Concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

Compliance with EU REACH Regulation

In accordance with the EU REACH regulation on the management of chemicals, the MGC Group completed registration by December 1, 2010 for eight targeted products, two of which were joint submissions with MGC as the lead registrant.

The REACH regulation is seen as a tool for minimizing the impacts of chemical products on people and the environment. In addition to our ongoing collection of safety information, the MGC Group is confirming import volumes, and collecting and managing information on importers and use, for not only registered products but also those scheduled for future registration.

GLP Certified Testing Facility

For chemicals handled by the MGC Group, the Niigata Research Laboratory conducts safety testing that includes biodegradability tests, mutagenicity (Ames) tests, acute oral toxicity tests, primary skin irritation tests, and pathogenicity tests. Of these, the biodegradability tests and Ames testing facilities are recognized by the Japanese government as conforming to GLP* testing facilities.

Test reports under GLP also command high confidence internationally. In addition, we are also able to comply with notifications under the Law Concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. and the Industrial Safety and Health Law, and are conducting tests for notifications of new chemical substances.

* **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.

Providing Safety Information

MGC provides safety information on products through means that include submission of product MSDSs (material safety data sheets), placement of display labels on products, and distribution of Yellow Cards.

MSDS

MSDSs are intended to convey detailed information about product safety, and are submitted to companies that handle our products, such as customers, sales agents, and shipping companies. Our Japanese MSDSs for all products comply with the GHS, even where not required by law.

Product display labels

We are revising labels affixed to product containers to be GHS compliant, even for products which are not subject to legal requirements but which may become subject to GHS label compliance. For all remaining products, we have completed preparations for GHS compliant Japanese labeling and are affixing the labels in conjunction with production.

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 adhere to the carrying of these cards during product shipments.

Emergency Response in Distribution

At every MGC workplace, 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 response system preparation, we are able to use firefighting and other apparatus to 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.

In addition, every year we carry out oil barrier extension drills to prepare for marine leakage accidents during ship transport.

Mizushima Plant / Wide-area support vehicles carrying emergency goods and equipments

Kashima Plant / Drills for shipping yard truck leakage scenarios

Mizushima Plant / Oil barrier extension drills

Niigata Plant

Address: 3500 Matsuhama-cho, Kita-ku, Niigata-shi, Niigata 950-3121, Japan Tel: +81-25-258-3474

ISO14001 certification: June 1998 (certification body: DNV)

Message from the Niigata Plant Manager

The Niigata Plant, which enjoys abundant resources such as water and natural gas, is a plant with close relations with people in the surrounding area and deep roots in the Niigata region. Aware of our responsibility as the only high-pressure gas certified workplace in Niigata Prefecture, we are committed to process safety and disaster prevention, as well as to contributing to the community.

Masato Inari
Plant Manager

Main products

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

Environmental burden data (FY 2010)

Water consumption (1,000 m^3)	12,496
GHG emissions (1,000 tons-CO_2)	461
NOx emissions (tons)	355
SOx emissions (tons)	0
Total drainage volume (1,000 m^3)	9,489
BOD emissions (tons)	37
Waste transferred offsite (tons)	2,079
Final landfill (tons)	70

PRTR substances	Emissions (tons)	Transfers (tons)
Ethylene oxide	1.7	0.0
Dichloromethane	0.5	2.3
Methyl methacrylate	0.3	25.1

Scene from a comprehensive disaster drill

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 goals are to aim for harmony with nature, contribute to the development of society through chemistry, and grow sustainably. We will muster scientific technology to 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

Lecture on technological fundamentals

Acting as crosswalk guards every spring and fall

Mizushima Plant

Address: 3-10 Mizushima Kaigan Dori, Kurashiki-shi, Okayama, 712-8525, Japan Tel: +81-86-446-3822

ISO14001 certification: May 2000 (certification body: JCQA)

Message from the Mizushima Plant Manager

At the Mizushima Plant, we have several themes aimed at environmental preservation. These include promoting the rational use of energy, reducing emissions of harmful air pollutants reducing emissions of water pollutants and promoting of reduced waste and zero emissions.

These past few years, we have been working to reduce our environmental impact, through measures such as switching our fuel to natural gas, introducing energy-efficient boilers, and improving fluorine fixation devices. We have also undertaken the reduction of volatile organic compounds (VOCs) together with other companies in the Mizushima industrial complex, with significant results.

Kenji Inamasa
Executive Officer
Plant Manager

Main products

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

Environmental burden data (FY 2010)

Water consumption (1,000 m^3)	12,362
GHG emissions (1,000 tons-CO_2)	535
NOx emissions (tons)	278
SOx emissions (tons)	147
Total drainage volume (1,000 m^3)	11,002
COD emissions (tons)	158
Waste transferred offsite (tons)	5,053
Final landfill (tons)	0

PRTR substances	Emissions (tons)	Transfers (tons)
Xylene	22.7	6.6
Hydrogen fluoride and its water-soluble salt	9.1	0.0
Isobutyraldehyde	9.2	0.0

Participation in cleanup activities around Mizushima Port

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 has installed AEDs and conducted basic lifesaving training for staff, earning us registration by Hiratsuka City as a “workplace cooperating in emergencies.” In addition, we received recognition by the Kanagawa Prefecture Association for Safety of Hazardous Materials as a “superior hazardous materials workplace” for our management of hazardous materials facilities for many years with zero accidents.

From FY 2011 we have initiated patrols to confirm that protective equipment is worn to prevent occupational injuries, as we also work to prevent the occurrence of burns or chemical burns. To increase sensitivity toward safety, we are promoting active participation in external seminars.

Toshiya Takagi
Laboratory Director

Main research themes

- Specialty plastics
- Functional materials
- Packaging materials
- Resist materials
- High heat-resistant films

Workplace tour for Ohara High School students

Spraying water during a disaster drill

Yokkaichi Plant

Address: 4-16 Hinagahigashi 2-chome Yokkaichi-shi, Mie 510-0886, Japan Tel: +81-59-345-8800

ISO14001 certification: August 1999 (certification body: JQA)

Message from the Yokkaichi Plant Manager

Yokkaichi City, located in the northern part of Mie Prefecture and surrounded by the natural beauty of Ise Bay and the Suzuka Mountains aims to become an environmental conservation city through the establishment of basic environmental regulations and environmental planning. In response to these local initiatives, for the past few years the Yokkaichi Plant switched its boiler fuel to city gas, and has undertaken environmental risk assessments. At present, the plant is committed to safety and is focusing on 5S activities so as to conduct its business activities with the trust of surrounding residents.

Yoshihiko Sekine
Plant Manager

Receiving region-specific training from JICA (Japan International Cooperation Agency)

Main products

- Hydrogen peroxide, other industrial chemicals
- Polyacetal plastics

Environmental burden data (FY 2010)

Water consumption (1,000 m^3)	7,431
GHG emissions (1,000 tons-CO_2)	86
NOx emissions (tons)	25
SOx emissions (tons)	3
Total drainage volume (1,000 m^3)	5,800
COD emissions (tons)	45
Waste transferred offsite (tons)	784
Final landfill (tons)	4

PRTR substances	Emissions (tons)	Transfers (tons)
1,2,4-Trimethylbenzene	128.4	0.0
Toluene	1.5	2.1
Formaldehyde	0.9	0.0

Yamakita Plant

Address: 950 Kishi Yamakita-machi, Ashigarakami-gun, Kanagawa, 258-0112, Japan Tel: +81-465-75-1111

ISO14001 certification: May 2000 (certification body: JQA)

Message from the Yamakita Plant Manager

Surrounded by the Tanzawa and Hakone mountains at the north end of the Ashigara plain, the Yamakita Plant has seen the details of its work change through the years since its establishment in 1933. However, it has maintained a consistent harmony with the abundant natural environment throughout the continuation of its production activities. The major flooding along the Sakawa River due to heavy rain in September 2010 reminded us again that the blessings and the dangers of nature are two sides of the same coin. Never forgetting our humility in the face of that, we will conduct our business activities with a focus on safety, environmental conservation, and our relationship of trust with the community.

Kuniaki Jinnai
Plant Manager

Ammonia leak drill

Main products

- Derivatives of hydrogen peroxide
- Persulfates

Environmental burden data (FY 2010)

Water consumption (1,000 m^3)	4,713
GHG emissions (1,000 tons-CO_2)	18
NOx emissions (tons)	4
SOx emissions (tons)	0
Total drainage volume (1,000 m^3)	3,834
COD emissions (tons)	8
Waste transferred offsite (tons)	489
Final landfill (tons)	0

Kashima Plant

Address: 35 Higashi Wada, Kamisu-shi, Ibaraki 314-0102, Japan Tel: +81-299-96-3121

ISO14001 certification: February 1999 (certification body: JQA)

Message from the Kashima Plant Manager

The Kashima Plant, located in the Kashima Eastern Industrial Complex, is surrounded by the Pacific Ocean to the east and the Tone River to the west. The plant was considerably damaged in the Great East Japan Earthquake of March 11, 2011, and was forced to suspend production. However, recovery work was completed in mid-June and the entire plant was able to resume operations.

The lessons learned from the earthquake will be put to use in future RC as we work to create a plant that will earn the trust of the community and contribute to society more than ever before.

Tsuneaki Iwakiri
Plant Manager

Evaluation by managers in TPM activities

Main products

- Hydrogen peroxide
- Polycarbonate plastics

Environmental burden data (FY 2010)

Water consumption (1,000 m^3)	1,683
GHG emissions (1,000 tons-CO_2)	151
NOx emissions (tons)	4
SOx emissions (tons)	0
Total drainage volume (1,000 m^3)	1,503
COD emissions (tons)	13
Waste transferred offsite (tons)	646
Final landfill (tons)	1

PRTR substances	Emissions (tons)	Transfers (tons)
1,2,4-Trimethylbenzene	338.2	48.0
Dichloromethane	100.2	3.5

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

Inaugurated in October 2009, Tokyo Techno Park is an urban-style research and development base. Development continues at the open space on the north side, and a decision has been made to expand the laboratory. We aim to build lush laboratories in harmony with the surrounding landscape. In adjacent areas, construction has begun on a university that is scheduled to open in the spring of 2013.

Our first priorities in research and development are environmental preservation and safety. Everyone working at the Techno Park is highly sensitive to these, and is steadfastly working to build a safety-oriented culture.

Makoto Mizutani
Managing 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

Lifesaving training for new employees

Participating in the volunteer fire brigade committee under the Kanamachi Fire Station jurisdiction

MGC Group's Environmental and Safety Activities

Twelve domestic subsidiaries of the MGC Group that handle the Group's chemical products (as of August 2011) 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 2014	2011 RC Action Plan
■ Expanding target groups 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 promulgation 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 2010, audits were carried out on the following six companies.

- Japan U-PiCA Co., Ltd., Shonan Plant
- JSP Corporation Yokkaichi No. 1 Plant
- Electrotechno Co., Ltd.
- MGC Filsheet Co., Ltd., Osaka Plant
- MGC Pure Chemicals America, Inc. (MPCA)
- MGC Advanced Polymers, Inc. (MAP)

MGC Filsheet Co., Ltd. / Osaka Plant

MPCA / U.S.

MGC Group Company Topics

An environmental communication meeting was held for area resident and local government visitors to the company.
(MGC Filsheet Co., Ltd., Tokorozawa Plant)

Plant safety assembly on the opening day of National Safety Week.
(MGC Filsheet Co., Ltd., Osaka Plant)

Experiencing the fearsome impact of falls during hands-on hazard drills.
(Electrotechno Co., Ltd.)

A rescue training series was conducted in preparation for oxygen deficiency accidents in towers and tanks.
(Shin Sanso Kagaku Co.)

Training was conducted using actual firefighting pumps.
(Toyo Kagaku Co., Ltd.)

Fire extinguisher instruction is given every year during disaster drills.
(Japan Circuit Industrial Co., Ltd.)

Important production equipment is carefully polished and maintained.
(Japan Finechem Co., Inc., Sakaide Plant)

Participating in Eco Life Fair in Kanuma 2010.
(JSP Corporation, Kanuma)

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., 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/

Yasuki Yamase
President & CEO

The Kinuura Plant in Aichi performs the only synthesis of chemical blowing agents in Japan, and the Ujitahara Plant in Kyoto performs processing of the blowing agent powder. Proper safety management in the manufacture of blowing agents, which are broken down using heat, protects the lives of those of us directly involved in production, and ensures a stable supply to our customers. All employees work toward this under the slogan "Maintaining safety and the environment together."

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/

Yukio Suzuki
President & CEO

Our company was not directly damaged by the earthquake, but energy-related measures, as seen in restrictions on electricity consumption and the launch of CO_2 emission trading schemes, have become a major issue for us. With "Continuing environmentally-friendly, safe, and stable production" as our foundation, we are calling upon our collective wisdom to eliminate waste and improve productivity.

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

Takayuki Watanabe
President & CEO

In the recent earthquake, we were hit by a shock of just under intensity 6 and were forced to suspend production. Despite that, through the indomitable spirit of our employees and the support we received from MGC and our affiliate companies, the resumption of production that we had initially thought to require a half-year or even a year was instead achieved in only three weeks. Our miraculous avoidance of any human loss was, we believe, the result of our ongoing emergency drills.

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
URL: http://www.co-jsp.co.jp/english/

Kozo Tsukamoto
President & CEO

As an internationally competitive company focused on addressing safety and the environment, we aim to conduct business activities that earn the trust and agreement of all of our stakeholders. To meet the trust and responsibility granted by our stakeholders, we operate our corporate governance effectively, and thoroughly pursue efficiency, transparency, and soundness in our management.

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: Kayaba-cho Nakano Bldg., 22-15, Shinkawa 1-chome, Chuo-ku, Tokyo 104-0033, Japan
Tel: +81-3-3552-7611
URL: http://www.jfine.co.jp/eng/

Norio Hakuta
President & CEO

Our company is engaged in the businesses of fine chemicals using hydrazine as the primary raw material, and electronic components with a focus on high value resistors. In both of these businesses we reduce the risks to equipment and to work through voluntary maintenance activities and activities such as risk assessment and hazard prediction, based upon the recognition that ensuring safety is the core premise of our business activities. In this way, we strive to achieve zero accidents and occupational injuries.

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. Safe and stable operations, as well as the reduction of environmental impacts through improvements in recycling, are immediate issues for us. As one of our minor activities, we mow the grass alongside neighboring public roads several times every summer in order to ensure a walkway and the safety of pedestrians.

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/

Chiharu Nishizawa
President & CEO

Our company's base of Tomakomai City is an industrial city rich in nature, encompassing a portion of Shikotsu-Toya National Park. It is also home to Lake Utonai, which is registered with the Ramsar Convention. As the only manufacturer in Hokkaido producing the environmentally-friendly chemical product hydrogen peroxide, we undertake production with safety and environmental conservation as our top priorities.

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/

Kazuhiro Miyasaka
President & CEO

Our company recognizes human, environmental, product , and equipment safety as the most important components of stable operations, and all of us as one are committed to pursuing these. In December 2009, we signed the Agreement for the Promotion of Environment Preservation with Toyota City and are working to enhance our environmental conservation. Especially mindful of energy conservation in 2011, we have put out a call for an energy conservation slogan, and from July have implemented specific power-saving measures.

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: +81-46-353-8300
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. With regard to environmental conservation, we set specific targets for the development of energy-saving products, reduction of industrial waste, and energy conservation. Our policy in the area of safety is zero accidents and zero occupational injuries, and all of us are engaged in safety activities and their respective goals.

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

In the area of production, we aim to reduce CO_2 emissions by raising productivity, while reducing the probability of accidents and occupational injuries through the innovative production technology that forms the base for the environment and safety. In the area of development, we will accelerate the development of biomass products and contribute to improving the global environment.

Fudow Co., Ltd.

Manufacture and sale of molding resin

Address: 5F, NOF Shin-Yokohama Bldg., 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

Yuji Takamizawa
President & CEO

Our company, which produces molding materials and molded products at four plants, places safety and environmental conservation at the top of our management policies. With the aim of zero accidents and occupational injuries, we are working to establish 5S, C-TPM, KYT, and *Hiyari-Hatto* (near miss) activities, and to enhance the sensitivity to safety of all employees. We are also undertaking activities that contribute to the global environment, including the development of biophenol resin and the further promotion of energy conservation.

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

Takayuki Watanabe
President & CEO

Although we were hit by a shock exceeding intensity 5 in the recent earthquake, our location on particularly solid ground in Yamagata Prefecture fortunately allowed us to escape with little damage. Some areas of the plant had cracks in walls and other issues, but there was no toppling of equipment or harm to people. We were able to resume production the following week, which we credit to our ongoing emergency training.