MITSUBISHI GAS CHEMICAL COMPANY, INC.

Editing division and Contact for MGC Responsible Care further information

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Responsible Care

Responsible Care Status Report 2008

Environment, Health and Safety activities of Mitsubishi Gas Chemical Company, Inc.

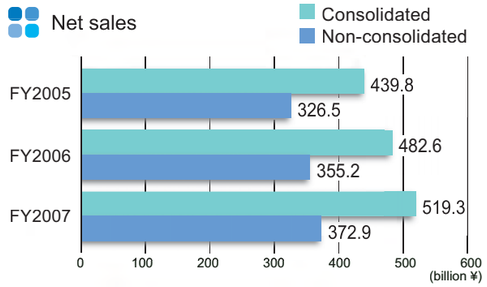
MGC

Profile of MGC

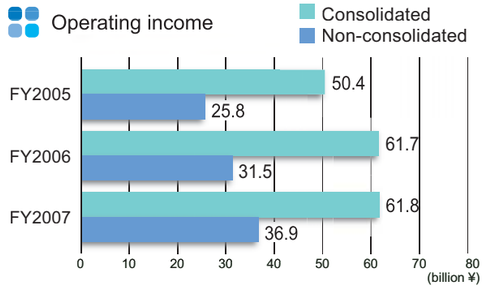
(as of March 31, 2008)

Company Name	MITSUBISHI GAS CHEMICAL COMPANY, INC.
Head Quarters Address	Mitsubishi Building, 5-2 Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8324, Japan
Original Establishment	January 15, 1918
Incorporation	April 21, 1951
Capital	¥ 41.97 billion
Number of Employees	4,686 (Consolidated) 2,186 (Non-consolidated)
Main Business Sites in Japan	
Branch offices :	Osaka branch and Nagoya branch
Research laboratories :	Tokyo research laboratory, Niigata research laboratory, Hiratsuka research laboratory and Tokyo techno-center
Plants :	Niigata plant, Mizushima plant, Yokkaichi plant, Yamakita plant and Kashima plant
Number of consolidated subsidiaries	33

Net sales



Operating income



Main Products

Natural Gas Chemicals Company

MGC manufactures commodity chemicals such as methanol, ammonia, formalin etc. and uses these chemicals to produce their derivatives, and life-science products.

- Methanol
- Formalin
- Ammonia
- Methylamines
- Methyl methacrylate methanol
- Methacrylates
- Polyols
- Dimethylether
- Ubidecarenone (Co-enzyme Q_{10})
- ASC Super (Catalase)
- Hydrogen generation device from CatalystsCatalysts

Aromatic Chemicals Company

Through MGC's unique xyleneseparation and isomerization technology, OX, MX, PX isomers are separated and used as raw materials to produce functional aromatic roducts.

- m-Xylene
- o-Xylene
- Methaxylylene diamine
- 1, 3-BAC
- MX nylon resin
- Toluic acid
- Aromatic aldehydes
- Trimellitic anhydride
- Pyromellitic anhydride

Specialty Chemicals Company

MGC has developed basic chemicals of hydrogen peroxide, super-pure hydrogen peroxide used in the electronic industry, and produces engineering plastics, polycarbonate etc.

- Hydrogen peroxide
- Sodium percarbonate
- Persulfates
- Hydrosulfite
- Chemicals for electronic industries
- Monomer for plastic lens
- Polycarbonate resin (Iupilon®)
- Polyacetal resin (Iupital®)
- Modified polyphenylene ether (Iupiace®)
- Polyamide MXD6 (Reny®)
- Polyamideimide (AI Polymer®)
- Iupilon Sheet®

Information and Advanced Materials Company

MGC supplies high-performance, high-added-value products such as MT resin-based electronic materials, oxygen absorbers etc.

- Epoxy • BT resin copper clad laminates
- Materials for multi-layer printed circuit board
- BT resin®
- LE SHEET®
- AGELESS® (Oxygen absorber)
- Anaero Pack®
- RP System®
- AGELESS OMAC®
- PharmaKeep®

Explanatory note

Mitsubishi Gas Chemical Company, Inc. (MGC) has published the environmental report since 2001, changed the report title to "Responsible Care Report" in 2007 and continued to release the approach to the environment, health and safety activities.
This Responsible Care Report 2008 is issued to report MGC's Responsible Care (RC) Activities (Occupational health and safety, Process safety and disaster prevention, Environmental preservation, Product stewardship, Distribution safety) widely to the Community, and to promote our own RC activities.
The "Environmental Report Guideline 2007 edition" of the Ministry of Environment was referred for preparation of this RC Report. Also, how to make this report understandable by using readable expressions etc. was kept in mind when preparing it.

Scope of this report

Site covered :
All MGC's domestic workplaces
The environmental performance data are based on only those of 8 plants where the production is carried out.

Period covered :
From January 1, 2007 to December 31, 2007.
(A part of activities in 2008 is described)
Provided that the period of the environmental performance data are those from April 1, 2007 to March 31, 2008.

Publication :
October, 2008

Next publication schedule:
October, 2009

Contents

Cultivating a culture of safety to earn the trust of society

A chemical company that wishes sustain steady growth must always maintain safety at its business locations, as well as a work environment in which all employees can work with peace of mind.

It is therefore a source of deep regret for all of us at MGC that in December 2007 an accidental explosion occurred at the natural gas drilling facility of our Niigata plant that resulted in the tragic loss of life of a subcontractor worker involved in construction work there. Reflecting on this event, I felt a strong need to remove the root cause of this kind of accident, and in February 2008, MGC launched a special project aimed at eradicating accidents.

This initiative is included in the Responsible Care environmental and safety activities pursued by MGC, and looking ahead, all of us at MGC will work together as a team to cultivate a culture of safety, stability and reliability so that we may earn the trust of society.

October 2008

Representative Director, President

Kazuo Sakai

RC activities at MGC

At MGC, we firmly believe that to continue the sustainable growth of our company we must earn the trust of society by operating in a safe and environmentally sound manner. We began our RC program in 1995, based on our conviction that the most effective way to achieve sustainable development is to promote thorough compliance and to implement RC activities that involve all members of the organization. In 1997 we announced our RC Action Declaration and embarked on program of activities that continue to this day.

In 2006 we expanded this program to include affiliated manufacturing companies as part of measure to develop RC activities across the entire MGC Group.

Responsible Care : Support for the Global Charter

Our president Kazuo Sakai is a signatory to the Responsible Care Global Charter, established by the International Council of Chemical Associations. This charter contains nine key elements, as follows:

LETTER FOR COMPANIES-DECLARATION OF SUPPORT FOR THE RESPONSIBLE CARE® GLOBAL CHARTER

1. Adopt global responsible care core principles
2. Implement fundamental features of national responsible care programmes
3. Commit to advancing sustainable development
4. Continuously improve and report performance
5. Enhance the management of chemical products worldwide - product stewardship
6. Champion and facilitate the extension of responsible care along the chemical industry's value chain
7. Actively support national and global responsible care governance processes
8. Address stakeholder expectations about chemical industry activities and products
9. Provide appropriate resources to effectively implement responsible care

Activity topics

In 2007, we unfortunately experienced a total of eight incidents resulting in lost work time and eight other accidents throughout our operating network (including subcontractors). This included one fatal accident, and was part of an increasing number of accidents over the past three years. In light of this, in February 2008 we launched a major accident prevention project targeting all employees, with the aim of reversing this worrying trend.

We also reviewed our rate of energy consumption per unit and set new targets as part of our initiatives to address the issue of greenhouse gases and global warming. Our revised target for 2010 is to reduce our energy consumption unit rate to 85% or lower compared to 1990. In 2007 we achieved a level of 89% compared to our baseline year, and to meet our new target we are now redoubling our efforts.

Compared to 2007, we reduced our PRTR chemical emission volumes by 14%, and in 2008 we are working to make further progress in this respect.

Our target for waste reduction is to achieve zero emissions status (lower than 0.3% of final content per unit), and focused efforts resulted in four manufacturing plants meeting this target in 2007.

In 2006 we launched our MGC Group Environmental Safety Committee with the purpose of promoting and supporting environmental safety at affiliated companies. A total of 14 affiliated manufacturing companies currently participate in this program, as part of which they each meet with the committee twice a year to outline their safety programs and outcomes so that information can be shared across the group to raise overall safety awareness.

These RC activities are described in more detail in this RC Report, and we hope you will take the opportunity to learn about our dedication to achieving our RC aims.

As individuals and as a company we aim to earn and sustain your trust, and as such we welcome any feedback or requests you have regarding our endeavors.

Environmental and Safety Management

At MGC, we are understanding activities to promote "sustainable development", "creation of a recycling-based-society", and "safe operation" as important business objectives, and we are working on Responsible Care activities in all companies as a means to perform "Environment and Safety".

Corporate Philosophy

MGC is fully committed to making contributions towards development in harmony with society through the creation of a diverse range of value based on chemistry.

Management Philosophy

With a view towards worldwide needs, our marketing efforts will focus on identifying and enlarging the world's markets.
The management of MGC is dedicated to providing comfortable workplace, paying due respect to the will and ability of our employees, and is determined to create energetic workgroups.
With full knowledge of the market's needs, we will implement creative research and development to nurture the seeds of our efforts to realize the best results.
By making efforts to upgrade technology, preserve the environment and promote safety, we will engage in the manufacture of better quality products
We are a transparent company, where all employees work towards a common goal

Safety Philosophy

Top priority of business activity is ensuring of safety.

Safety is the basis of business activity and safety ensuring is the duty to society.

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 and to secure the environment and a safe workplace and products, and by thinking of how 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 of health and safety in our operations
- Securing security management of facilities and increasing self-maintenance technologies and skills
- Reducing environmental loads in business activities
- Ensuring safety in use, handling and disposal of products
- Developing of environment-friendly and safety-conscious products and technologies
- Ensuring environmental preservation and safety in the logistics of obtaining raw materials and storing and delivering our products
- Enhancing of society's confidence to us
- To provide support to our subsidiaries and affiliates in implementing their own RC activities
- Continuously improving our RC management system

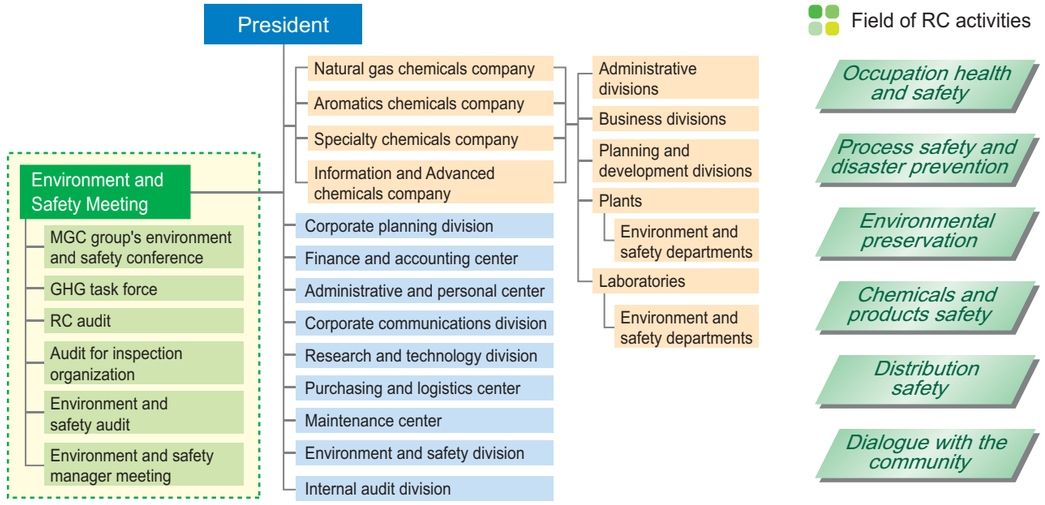
We shall comply fully with applicable domestic laws and foreign rules and shall also cooperate with related international organizations, international and national administrative organs, and nongovernmental organizations whenever needed.

Message from the Director in charge of environment and safety

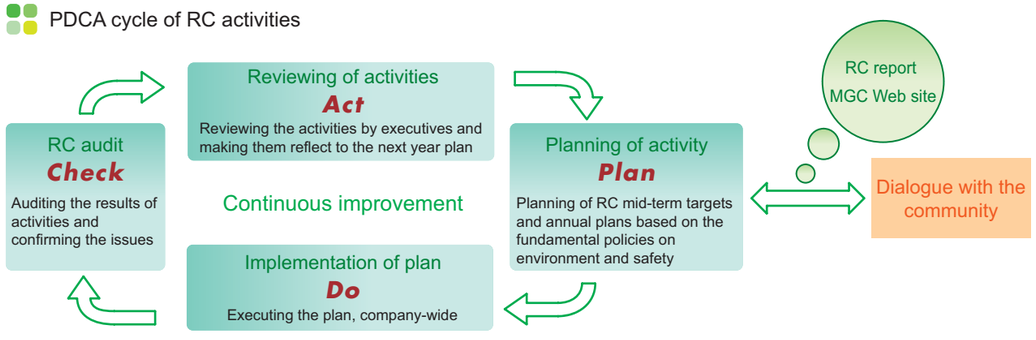
Safety and environmental preservation are essential guiding criteria for the operational and administrative stability of a company, as well as its sustainable growth. They are also the foundation on which the continuity of the business depends. For this reason we must in all cases maintain faith in our ability to prevent accidents completely. Without this conviction, it would be impossible to set a target of zero accidents. It is our duty to seek out the obstacles to the achievement of this goal and steadily and continuously address them to prevent potential accidents from actually occurring, while all the time working to improve communication throughout our organization. Leaders of the organization and regular employees all share the safety first principle, "The ultimate priority in our operations is to ensure safety." We must all remain aware of our responsibilities, and fulfill this principle in our words and actions.

Director, Senior Managing Executive Officer
Shoji Uematsu

Responsible Care Promotion System



PDCA cycle of RC activities



Targets and Results of Responsible Care Activities

Estimation Remarks　Achievement :  　Necessity of more efforts :  　No activity : 

	Medium-term RC targets (2006-2010)	Activity Plan in 2007	Actual results of activities	Estimation	Relevant page
Occupational health and safety	Achieve zero occupational injury	❶ Eliminate our human errors ・Activate suggestion activities on Hiyari-Hatto (near miss) through employees' participation ・Review educational methods to improve employees' sensibility to risk ❷ Enhance the occupational safety and health risk assessment activity ❸ Make sure the risk prediction activity before starting non-routine work	❶ The participation rate of employee was about 65~90%, and the experience training of safety practice etc. has been taken in education. ❷ Conducted occupational risk assessment for Hiyari-Hatto suggestion items. ❸ Conducted risk prediction activity before starting non-routine work by individual tool box meetings and risk prediction at site.		10
Process safety and Disaster prevention	Achieve zero accident	❶ Reinforce safety management for facilities without authorized inspection under any law ❷ Enforce the management for any changing in process and verify its effectiveness ❸ Review the crisis management system in case of an accident	❶ Pay attention to management of deteriorated piping and make an inspection plan and renewal plan. Measures are under execution. ❷ Implement preliminary safety assessment at the time of facility modification. Also conduct preliminary safety assessment for a new experiment or scale-up at a research institute. ❸ Perform various training in response to emergency cases and reflect it in reviewing related regulations. * A serious accident occurred on December 6th 2007. (A special project has been launched for the purpose of accident eradication. See p.12 for detail)		11 12
Environmental preservation	Reduce energy consumption rate below 85% compared with 1990	❶ Reduce energy consumption rate more than 1% compared with the previous year	❶ Although the energy conservation measures of about 4000kl of crude oil equivalent were conducted, the improvement of energy consumption rate was only 0.5% compared with the previous year. (88.9% compared with fiscal 1990)		17 ~ 24
	Reduce greenhouse gas emission consumption rate below 80% compared with 1990	❶ Reduce GHG emission rate more than 1% compared with the previous year	❶ GHG emission consumption rate has been improved by 6% compared with the previous year due to the effect of energy conservation and fuel switching from crude oil to natural gas. (81.3% compared with fiscal 1990)		
	Reduce PRTR chemical emissions by 10% compared with 2004	❶ Reduce amount of PRTR chemical emissions more than 2% compared with fiscal 2004	❶ Emission of PRTR chemicals in the list of JCIA (Japan Chemical Industry Association) has been reduced by 7% compared with the previous year. (reduced by 3% compared with fiscal 2004)		
	Reduce VOC emissions by 10% compared with 2004	❶ Reduce amount of VOC emissions more than 2% compared with fiscal 2004	❶ VOC emission has been reduced by 8% compared with the previous year. (reduced by 4% compared with fiscal 2004)		
	Achieve zero emission of waste	❶ Achieve zero emission of wastes ❷ Promote green procurement (office and stationary supplies)	❶ The volume zero of final disposal was achieved at the four plants. ❷ All workplaces promote the green procurement by wider variety of goods.		
Chemicals and products safety	Provide latest MSDS (Material Safety Data Sheets) and conform with GHS (GloballyHarmonized System) Implement safety assessment of products Participate in Japan Challenge program Respond to REACH regulations Undertake appropriate evaluation of new chemicals Pursue the development of environmentally friendly products and energy-saving technology	❶ Review and provide the MSDS based on latest safety information ❷ Harmonize with the amendment of Industrial Safety and Health Law (GHS) ❸ Research and verify a substance contained in our product ❹ Implement the Japan Challenge Program ❺ Plan the appropriate countermeasures to REACH ❻ Review our flow of newly developed product safety assessment ❼ Pursue the development of environmentally friendly products and energy-saving technology	❶ Revised MSDS based on latest safety information. ❷❸ Investigated substances other than the product of 0.1% or more contained in the product because of the amendment of Industrial Safety and Health Law, and advanced the confirmation of the correspondence or non-correspondence of displaying and issuing writing. ❹ Started gathering safety data and testing on 4 substances as scheduled after declaring to participate in the Japan Challenge Program. ❺ Drawn up appropriate measures to REACH. ❻ Reviewed regulations relating to safety assessment of newly developed products. ❼ Promoted to develop plant construction to produce next-generation clean fuel DME, energy saving technology, environment-friendly products such as detergent "YUTLAS ACE" for oil- contaminated.		13 ~ 16
Distribution safety	Respond to GHS requirements Ensure safety in distribution activities Reduce the environmental burden of distribution activities	❶ Verify the GHS labeling ❷ Enhance our auditing for delivery consignment companies ❸ Analyze a trouble in logistics and promote a preventative measure ❹ Analyze an amount of CO_2 emission in our distribution and plan its reduction scheme ❺ Promote modal shift	❶ Distributed the object products attached with GHS label. ❷ 6 main contractors of logistic companies were audited by our auditor. ❸ Conducted company-wide development after carrying out summary and analysis of troubles in logistics. ❹ Aim at 1% improvement per year of the energy consumption unit per ton kilo. ❺ Carried out modal shift and improved the efficiency of distribution systems.		16 20
Dialogue with the community	(Promote annual targets)	❶ Publish Environmental Report 2006, 2007 ❷ Publish Environmental site Report ❸ Participate in JRCC dialogue meeting and industry segment activities ❹ Participate in activities and events in local communities	❶ Changed the name "Environmental Report" to "RC Report" and issued it in October every year. ❷ Three site environmental reports have been published. ❸ MGC, as a member of JRCC, has communicated with public, local administrative and neighboring companies by participating every year in RC community dialogue meeting at each district where our plants are located. ❹ MGC hosted the industrial training for two participants of OPCW (Organization for the Prohibition of Chemical Weapons). We carried out the volunteer activities for cleaning and beautification around the workplace, the reception of plant visits and the opening of our welfare provisions. We actively participated in activities and events in local communities.		25
Spectrum of RC	Support their introduction of RC activity Audit for any affiliates in Japan and overseas	❶ Evaluate activities of MGC group's companies environmental and safety conference in 2006 and draw up activity targets in 2007 ❷ Visit and exchange information between MGC group's companies environmental and safety conference ❸ Carry out the RC audit to our 3 domestics subsidiaries and affiliates ❹ Carry out the RC audit to our 3 overseas subsidiaries and affiliates	❶ Evaluated activities of MGC group's companies environmental and safety conference in 2006, confirmed activity targets in 2007, and conducted company-wide development. ❷ Visited 8 factories and exchanged information relating to environment and safety. ❸ Conducted the RC audit to our 3 domestics subsidiaries and affiliates. ❹ Conducted the RC audit to our 3 overseas subsidiaries and affiliates, 2 in Korea and 1 in Taiwan.		33 ~ 38
	(Promote annual targets)	❺ Study RC inspection (JRCC) ❻ Carry out RC education and training ❼ Enhance internal audit	❺ RC inspection is going on. ❻ Conducted RC education and training, disaster prevention training and emergency drill, mock drill against mass communication, training against emergency without scenario etc. ❼ Enhance internal audit by conducting training for internal auditor, revising audit check list etc.		26 ~ 32

Responsible Care Audit and Activity Plan

RC audit is undertaken every year. Findings are reported to the Environment and Safety Committee and reflected in RC activity plan for the following year, with the aim of achieving continuous improvement.

The 2007 RC Audit

Our audits are based on evaluating the RC activity progress being made at each workplace in the context of overall MGC RC activities, using both a pre-audit assessment based on documents and records and a current annual audit undertaken by the director in charge of the environment and safety. The audits also include assessment of the PDCA cycle for the administration system covering the safety and certification of high pressure gas, boilers, and Class I pressure vessels at certified plants.

- Audit period : July 2007 to October 2007
- Auditee : 6 plants (including Tokyo Techno-Center), 3 laboratories, 4 internal companies and the corporate headquarters
- Audit outcome : Full conformity : 23 cases Non-conformity : 0 cases
  Improvement orders : 8 cases Comments : 31 cases
- Follow-up of improvement orders from previous year :
  Auditors confirmed that all the items directed for improvement in the previous year's audit had been properly addressed.

The RC pre-audit

The annual audit in progress

The 2008 RC activity plan

At the meeting of the Environment and Safety Committee held in December 2007, the following plan was formulated with respect to 2008 RC activities and meeting the goals of the Medium-term RC Targets for 2006-2010.

Note : Some details regarding community dialogue and overall RC activities have been abbreviated

Medium-term RC Targets for 2006-2010	2008 RC activity plan
Occupational health and safety	
Achieve zero occupational injury	Boost employee participation in the *hiyari-hatto* (near miss) reporting system Review risk assessment appraisal standards Enhance guidance of subcontractors with regard to health and safety measures
Process safety and disaster prevention	
Achieve zero accident	Strengthen administration of older facilities (including pipes) Enhance crisis management system for incident response Launch accident eradication project
Environmental preservation	
Reduce energy consumption rate below 85% compared with 1990	Implement energy usage reduction program and pursue stable operation of facilities, and reduce energy use per unit by more than 1% year on year
Reduce greenhouse gas emission consumption rate below 80% compared with 1990	Reduce greenhouse gas emissions per unit by more than 1% year on year
Reduce PRTR chemical emissions by 10% compared with 2004	Develop proposals and set targets at plants to reduce the major emissions
Reduce VOC emissions by 10% compared with 2004	
Achieve zero emission of waste	Make progress toward zero waste emissions by identifying current zero emission rates and quantifying final waste reduction targets per output unit for each plant
	Pursue green purchasing (for office equipment, etc.)
Chemical and product safety	
Provide latest MSDS and conform with GHS	Adopt GHS labeling to meet Occupational Health and Safety Law requirements Review and deliver MSDS in response to the Occupational Health and Safety Law
Implement a product safety assessment program Participate in the Japan Challenge Program Respond to REACH regulations Undertake appropriate evaluation of new chemicals	Research substances contained in products and form database Implement Japan Challenge program Respond to REACH regulations with preparations for preliminary and actual registration Adopt safety appraisal system for use during development of new products
Pursue the development of environmentally friendly products and energy-saving technology	Pursue development of products and technology with low environmental impact and energy-saving
Distribution safety	
Respond to GHS requirements	Confirm adoption of expanded scope of GHS labeling
Ensure safety in distribution activities	Continue safety auditing and administration of logistics vendors Carefully analyze any incidents and adopt thorough preventative measures
Reduce the environmental burden of distribution activities	Pursue CO_2 emission reduction plan Pursue modal shift and assess quantitative impacts

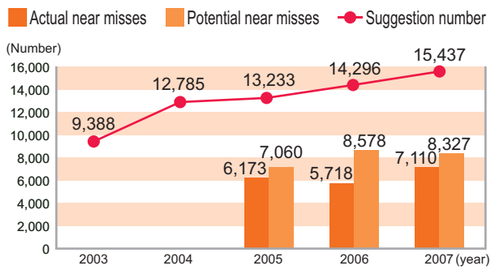
Approach to Occupational Health and Safety

As part of its RC initiative, MGC has a range of measures in place aimed at preventing occupational accidents.

Occupational safety activities

MGC is committed to zero accidents, zero occupational injuries and environmental preservation as the targets of its RC environmental and safety activities. A range of occupational safety activities are conducted in the workplace aimed at achieving these targets. These include daily safety procedures such as *hiyari-hatto* (near miss) reporting,
5S and risk reduction procedures, as well as education, training, and risk assessment.
We adapt our risk assessment activities to fit the characteristics of each business location. Occupational safety risk assessment methodology is used in analysis of actual cases from near-miss suggestions and we have established a dedicated Risk Assessment Committee within the Occupational Health and Safety Committee. Periodic presentations are also held to discuss occupational safety risk assessment.
In the audit of our 2007 Responsible Care report, it was pointed out that since the calculation method varied between business locations, it was possible that there was a discrepancy between evaluation results for the same risks. In light of this observation, we reviewed our Occupational Safety Risk Assessment Policy. The June 2008 revised version of the policy applies not only to occupational safety but also process safety and disaster prevention.

Trends in *hiyari-hatto* (near miss) reporting



* Location reduced by 2 since 2005

MGC uses near miss reporting to detect potential hazards, as well as to reinforce employee awareness of occupational risk. At most business locations the number of suggestions is equal to or greater than that recorded last year, and the number of potential near misses reported exceeds actual near misses. Ideally, all employees should be involved in this activity, and to improve the rate of participation we have introduced changes to each business location such as setting a departmental target of full staff participation and targets for individual employees.

Results of safety activities

There were two lost time injuries at MGC in 2007, and six at subcontractors. In particular, there was one major accident, when an accidental explosion occurred on December 6, 2007 at the natural gas drilling facility of our Niigata plant that resulted in the tragic loss of life of a subcontractor worker involved in construction work there.
Compared with the previous year, there has been a substantial increase in the number of lost time injuries at subcontractors in 2007, while the majority of lost time injuries both at MGC and its subcontractors involved long absences from work.
As yet we have only carried out investigations of the immediate causes of these accidents and there is a need to uncover the underlying causes and take measures to prevent recurrence accordingly. We will continue to use daily inspections and near-miss suggestion activities to discover the risks of our facilities and work areas.

Factory safety meeting

Trends in lost time injury frequency[*1]

	2003	2004	2005	2006	2007
MGC	0.53	0.28	0.29	0.92	0.59
Chemical industry	0.92	0.88	0.90	0.88	1.10
Manufacturing industry	0.98	0.99	1.01	1.02	1.09

*1 Number of injuries or fatalities per 1 million total number of working hours

Trends in lost time injury severity[*2]

	2003	2004	2005	2006	2007
MGC	0.02	0.001	0.001	0.20	0.01
Chemical industry	0.07	0.06	0.07	0.10	0.04
Manufacturing industry	0.11	0.11	0.09	0.11	0.10

*2 Number of days lost per 1 thousand total number of working hours

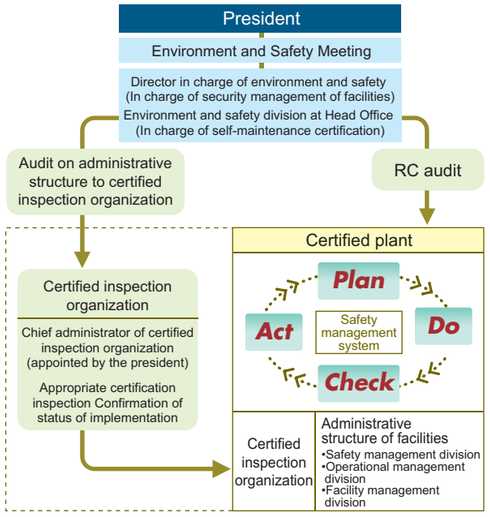
Approach to Process Safety and Disaster Prevention

MGC has positioned safety as a top priority issue. We are strongly committed to the achievement of zero accidents and zero occupational injury, which we pursue by promoting self-maintenance based on RC activities. We also have a disaster prevention system in place to deal with accidents should they occur.

Process Safety Management

MGC audits its process safety as part of annual RC auditing at each workplace.
The Niigata and Mizushima plants, which are certified high-pressure gas production facilities, undergo audits of their inspection organizations by the Director in charge of environment and safety, based on the Certified Process Safety Management Regulations for High Pressure Gas.
This auditing provides third-party confirmation of whether the safety management systems of the certified plants are in compliance with the standards specified by Minister of Economy, Trade and Industry.

High Pressure Gas Safety Management System



Number of accidents

During 2007 a total of eight accidents occurred, including those at subcontractors, an increase on the six accidents that occurred the previous year.

Safety management activities for facilities

The prevention of accidents and disasters requires us to ensure that our procedures are safe and our facilities well maintained, as well as to sustain stable operations. At each facility, we place particular emphasis on the maintenance of aging piping, and we are implementing various initiatives based on the inspection and renewal plans that we have established. Piping management systems are also either in operation or being planned. To ensure the thorough implication and efficiency of our management of alterations to facilities, we implement thorough prior safety audits at each facility whenever alterations are made. We have revised our safety audit regulations at the Niigata and Mizushima plants to include even minor alterations in the scope of each audit. We also carry out prior safety evaluations at our laboratories in the event of new experiments and scale-up tests.

Main safety management activities at each facility

Main safety management activities at each facility	
Niigata plant	Complete visibility of operational safety Reinforced initiatives to eradicate equipment malfunction Improved management system for high-pressure gas devices, non-code (outside scope of regulatory inspection) devices, aging facilities, etc.
Mizushima plant	Three-year plan for visibility (complete) Enhancement and full operation of facility management system
Yokkaichi plant	Preparation for registration of non-code device M3 system* Scheduled implementation of renewal of aging facilities
Kashima plant	Implementation of self-maintenance activities based on full-fledged adoption of TPM Preparation and use of non-code device safety tables Preparation for adoption of piping management system
Yamakita plant	Management using maintenance target charts for non-code devices

*The M3 system is a facilities management method

Response to emergencies

MGC has established a disaster prevention system at each workplace to deal with accidents should they occur, and carries out a range of disaster prevention training drills based on the safety targets of each fiscal year.
At the Mizushima plant, we have improved our capability to respond in the event of an accident by renewing the firefighting vehicle, adopting the newest model energy-saving vehicle. We have also introduced an earthquake emergency warning reception system in an effort to minimize damage in the event of an earthquake.


System combining earthquake emergency warning reception and internal broadcast of warning

Accident eradication project (Project AZ)

Background and aims of the project

In order that we may never repeat a tragic accident or disaster like the fatal explosion that occurred at the natural gas drilling facility of our Niigata plant on December 6, 2007, and in order to halt the trend of increasing incidences of accidents and operational irregularities at MGC facilities, we have initiated a special project as part of our RC activities, Project AZ (Accident Zero), which is aimed at eradicating accidents.


The Niigata plant natural gas exploration site where the accident occurred

The first objective of this project is to share among management and staff and implement MGC's newly formulated safety principle, "Top priority of business activity is ensuring of safety." The second objective of the project is to enhance our educational training system for employees, cultivate onsite safety technicians and upgrade our overall safety management. We will use this principle to pursue levels of knowledge and safety skills that go beyond mere compliance with work duty-related legislation and company regulations, and instill these as part of a continuous and independent human resource development system, while also leveraging the specific characteristics of each facility. This will result in the achievement of our third objective: zero accidents.

Project duration and slogan

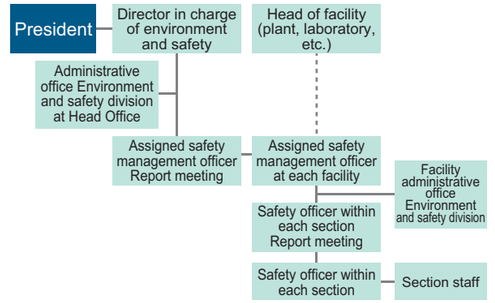
We have decided on a first project stage of three years in length, during which time we will establish accident eradication initiatives. If it is judged that the initiatives have not been fully established during that timeframe, we may extend the period as necessary.
The project slogan is "Safety depends on developing individual sensibility and team cooperation."

Main goals and policies

The main goal of the project is "to completely eradicate accidents and disasters". There are four policies:

(1) Cultivate a culture of safety
(2) Reaffirm legislation, company regulations, and internal rules relating to safety, and ensure thorough compliance with these
(3) Reinforce education and training
(4) Implement preventive maintenance

System for implementation



MGC has assigned safety officers appointed by the president as the officials in charge of project implementation at each facility

Initiative targets

The project will use the following PDCA cycle.

Plan	Formulate plan targets	Head office
	Formulate implementation guideline targets for each facility	Head office
	Examine contents for education and training	Head office
	Formulate implementation targets for each facility	Facility
Do	Implement targets for each facility	Facility
	Improve educational materials	Head office
	Reaffirm applicable legislation, operation manual and ensure compliance	Facility
	Implement education and training	Facility
Check	Implement audit by head office (emphasize project initiative as priority in RC audits; continue on an ongoing basis if necessary)	Head office
	Implement examination by facility management , monitoring by assigned safety officers (establish and operate monitoring system)	Facility
Act	Environmental safety meeting (December)	Head office
	Assigned safety management officers meeting (quarterly)	Head office
	Health and Safety committee meetings, etc.	Facility

Implementation status

A Group kickoff meeting for the project was held on February 8, 2008, and during March separate kickoff meetings were held at each facility, which were attended by the president as well as by director in charge of Environment and Safety. Following this the initiative took effect at each facility.

The president speaking at the Group kickoff meeting on February 8, 2008

The assigned safety management officers exchange information at special meetings held for this purpose, later making this information available to employees, including those at affiliates and subcontractors, through AZ reports issued four times per year.

Environment-friendly Products and Research and Development

We regard the global environmental preservation as common issue to the world, and we have been focusing on development of our environment-friendly products. We do not have many products supplied directly to consumers but we are making actively efforts to develop products and technologies by considering energy and resource saving, low load to environment, reduction of waste, etc.

MGC's environment-friendly products and technologies

	Products or Technologies	Contribution to environmental preservation
Plastics	MX nylon resin	Non chlorinated resin with high gas barrier capability
	Iupilon® (Polycarbonate resin)	Resin with excellent transparency, durability and weather ability, used for various purposes, contributing to resources saving
	Reny® (Polyamide MXD6)	Mineral-filled resin mainly used for side mirror stay of vehicle, contributing to the energy saving by light weight property
	Iupital® (Polyacetal resin)	Resin with excellent mechanical properties and used as the substitute for metals in various purposes
	Iupiace® (Modified polyphenylene ether)	Resin mainly used for office automation equipment, contributing to the energy saving for its light weight property
	AI polymer® (Polyamideimide)	Resin for thin outer housing of smaller and lighter office automation equipment on the basis of excellent heat resistance
Water treatment agents	Diafresh® series	
	OR-SON AT	Agent making persistent organic materials decomposable and drastically reducing the generation of sludge
	F-SON	Agent for separation and treatment of fluorine compounds, which can easily reduce the fluorine content to 8 ppm or less
	NEOSOL	Agent to prevent the oil-base paint mist from adhering and to make easy the recovery of dispersed paint in the recycled water in a painting booth
	NEOPOCK	Chemical agent for effective aggregation and separation of water-based paint, water soluble polymer, etc.
	Deslime®, Contlime®	Water treatment agent for recycled cooling water in piping aiming both the cleaning and long-life of said water, and high thermal efficiency
	DEOPOWER®	Deodorant agent to solve the issue of bad odor at sewage-treatment plant, etc.
Keep quality and freshness	AGELESS®	Agent keeping quality and freshness in food sector and, as a result, reducing waste of foods and promoting efficiency of production and distribution
	AGELESS OMAC®	New packaging film as the substitute for canned food, contributing to weight saving and waste reduction
	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 device, and improving their shelf life
	AIR-G	Eco-friendly system for insect proof and preservation of cultural property, used as the substitute for methyl bromide referred to as ozone layer depleting substance
Chemicals	Methanol, Ammonia, Methylamines,etc	Clean natural gas based basic raw materials and fine chemicals
	Methacrylates	Raw materials for vehicle coating based on acrylates, contributing to the reduction of fuel cost
	High-purity Terephthalic acid	Raw material for PET, contributing to the reduction of wastes by its recycling
	Hydrogen peroxid	Substitute for bleaching agents containing chlorine, used in a pulp and paper production process
	GASKAMINE 240®	Reduction of solvent by applying it to non-solvent epoxy resin (two liquid type) because of its lower viscosity
Technologies, etc	Dimethylether (DME)	Application of clean fuel DME used natural gas as material to the automobile fuel
	Fuel cell	Research and development of methanol fuel cell with which electricity is directly generated without hydrogen reforming. Output density is double compared with two years ago.
	Materials for Environment-Friendly Printed Circuit Board	Heat resistant materials for printed circuit board, suitable for lead-free solder Printed circuit board with Brominated flame retardants free
	Persulfates	Purgation of polluted underground water and soil
	Method for manufacturing of Aromatic aldehydes	Reduction of harmful waste by the completely closed process of super acid catalyst
	MGC-MH process	Process for the production of high purity hydrogen gas from methanol and water
	Development of natural gas field, Development of geothermal steam	Development of clean energy and its application to raw material Application of geothermal steam to electric power generation
	Method for manufacturing of Trimethylolpropane	Production technology that recovers and recycles by-product (sodium formate) as raw material
	Method for manufacturing of Methyl methacrylate	Production technology based on new ACH method using natural gas without generating by-product ammonium sulfate
	AR	Capacitor mainly consisted of AR (carbon) and aluminum is the electricity storage system with benefit of long life and less harmful materials
	Neofade® (damping material)	Excellent vibration-damping property / Suppresses structural resonance, preventing vibration and noise

MGC environment-friendly products and their development

MX-nylon resin

MX-nylon is widely used in food packaging since its excellent gas barrier properties make it impermeable to oxygen and other gases, preventing the oxidization degradation of food. Recently a production method has gained prominence that combines MX-nylon with other resins to reduce the overall thickness of the packaging material. A multilayer structure of MX-nylon and PET resulting in plastic with greatly reduced weight is being used to produce lightweight PET bottles, which have earned a strong reputation in Northern Europe as an environmentally friendly packaging.
MGC is also examining the potential of MX-nylon for applications in film and sheet.

RP system

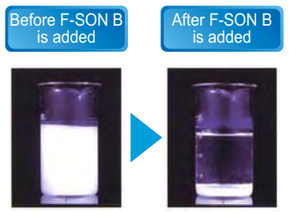
The RP system prevents discoloration, decreased bondability and solderability of metals and electronic components and other moisture-caused post-manufacture deterioration. It eliminates the need for the diffusion of chemical agents into the air, cleaning procedures, and cleaning agent disposal, which are required when volatile anti-corrosion agents or anti-corrosion oils are used on metal components. The RP system is also useful in the prevention of time degradation of stored electric components.

Dimethyl ether

Dimethyl ether (DME) is an environmentally friendly substance that does not emit particulate organic matter (black carbon, etc.), SOx etc. when incinerated. A major manufacturer of DME, MGC supplies DME and DME-related technical support for applications such as automotive test runs, and incineration equipment tests. We are also engaged in technological development for fuel cell battery and other appxlications as part of our efforts to promote the widespread use of DME fuel.
We have established and commenced operation of a new 80,000 ton per year production facility at the Niigata plant to promote the adoption of DME fuel as a supplement to LPG, heavy oil and light oil.

Water treatment agents

The water treatment chemical Contlime series not only contributes greatly to conserving energy and resources, but it is also highly effective in preventing Legionella, a bacteria that is harmful to human health and that has become a problem in recent years.
The Diafresh series wastewater treatment agent is an efficient solution to a wide range of problems associated with industrial wastewater. The series has earned a strong reputation in the automotive, semiconductor and other industries as a technology for reducing environmental impact. The series is comprised of : F-SON, a fluorine removal agent; NEOSOL, a paint recycling solvent; NEOPOCK, a chemical agent for effective aggregation and separation of water-based paint, water soluble polymer and other substances; and ORSON, an agent for the decomposition of persistent organic materials.



YUTLAS ACE

YUTLAS ACE is a unique environmentally friendly oil-adsorptive agent composed of natural materials. When mixed with soil or other substrates that have been contaminated with oil, the agent adsorbs the oil to limit both the oil odor and oil film. Bacteria native to the soil that use YUTLAS ACE as a nutrient for respiration then increase, resulting in the decomposition of both YUTLAS ACE and the adsorbed oil. YUTLAS ACE has strong potential for applications such as the bioremediation of oil-contaminated soil and removal of oil emulsion.

Approach to Chemicals and Products Safety

It is our responsibility as a chemicals supplier to clarify the characteristics, safeness and handling methods of our products, and we implement measures to protect the safety, health and environment of every user of our products. We also participate in safety assessment activities in Japan and overseas that publicly disclose information about the safety of chemical products.

Flowchart of safety assessment for chemicals and products

Preliminary study
Survey of literature
Access to MSDS of materials, etc.

Safety assessment
Hazard assessment
Assessment of environmental safety

Hazard classification
Survey of applicable laws
United Nations classification
Japanese classification

Preparation of safety information
MSDS
Product warning label
Yellow-Card

Investigation of sale on he market
Assessment of risk management
Judgment of sale on the market

Product supply
Collection of customer information
Compliance with applicable laws
Rationalization of product storage and transportation

Customer information

Surveys and research into the safety of chemicals

Japan Challenge Program

This program is a collaboration between the Japanese government and industry to accelerate the gathering of safety information relating to existing chemical substances, and ensure widespread disclosure of these to the public. The program is seeking sponsorship from companies within Japan to research the 126 substances whose domestic production or import volumes exceed 1,000 tons per year and which are not scheduled for information collection in the plans of Organization for Economic Co-operation and Development (OECD). MGC is participating in the program by taking responsibility of research into the following four substances.

Chemicals covered by MGC research as part of Japan Challenge Program
• 3,4-Dimethyl benzaldehyde
• Cyclohexyl methacrylate (consortium formed)
• Pyromellitic dianhydride (Du Pont-MGC Co., Ltd)
• 1,3-Bis (Aminomethyl) cyclohexane (scheduled for submission to OECD HPV program*)

MGC has already completed the final version of its safety information collection plan for three chemicals, and has started experiments to collect information that will be trusted internationally. Safety information for the remaining chemical will be submitted to the OECD HPV* program.

* The HPV program assesses the safety of high production volume (HPV) chemicals, i.e. chemicals of which the annual production volume in one country is 1,000 tons or more

REACH

REACH, a new set of regulations on the management of chemicals, was introduced in Europe in June 2007. MGC is cooperating with the affiliated company in Europe and has a system in place that can smoothly be brought into line with these regulations as appropriate. Using this system, we provisionally registered existing MGC products from June 2008, and through a reassessment of the risk and toxicity data in our possession, we are also proceeding with the management of new chemicals.

Safety in chemical experiments

MGC's Niigata research laboratory has a certified biodegradability and mutagenic (Ames) test facility in accordance with GLP*, which complies with Japanese regulations on the safety evaluation of chemical substances and industrial safety and health. Only ten companies in Japan have GLP-certified biodegradability test facilities. **
The laboratory also has test facilities for acute oral toxicity, primary skin irritation and pathogenicity, and 48 of these safety tests were conducted in 2007.

* Good Laboratory Practice: a quality system governing the organizational process and the conditions under which non-clinical health and environmental safety studies are planned, performed, monitored, recorded, archived and reported.
** As of April 1, 2008

Safety information service

Through its marketing and sales agents, MGC provides material safety data sheets (MSDS) to customers and transporters handling MGC products. We also attach information labels to products and distribute yellow cards for use during product transportation.

Material safety data sheets (MSDS)

MGC provides MSDSs for all of its products, including products for which this practice is not required by law. We are also sequentially preparing GHS compliant versions of our MSDSs.

Industrial Safety and Health Act compliance

Substances with certain content concentration levels as defined by government regulations will be included in MSDS revisions carried out by November 30, 2008

Yellow-Card

to transporters and insists that they are carried at all times to prevent accidents during transportation.

Yellow-Card

The Yellow-Card is a document used to ensure preparedness in the event of an accident while transport chemicals. It contains details of emergency contacts such as transporters, the fire department and police

Product labeling

MGC works to ensure safety by attaching warning labels on hazardous products, providing risk and hazardousness information on the container, pictures illustrating procedures to avoid risk, and cautionary information concerning correct handling. In December 2006, the Industrial Safety and Health Law was amended, requiring us to classify and label chemicals on the basis of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Following the amended law, we changed the classification and labeling of products listed under the law in order to bring them into line with GHS specifications. The quality and other characteristics of our products have not changed.

GHS-compliant product labeling

Substances with certain content concentration labels as defined by government regulations will be included in MSDS revisions carried out by November 30, 2008

Environment and safety considerations in distribution and product transportation

Audits of distribution contractors

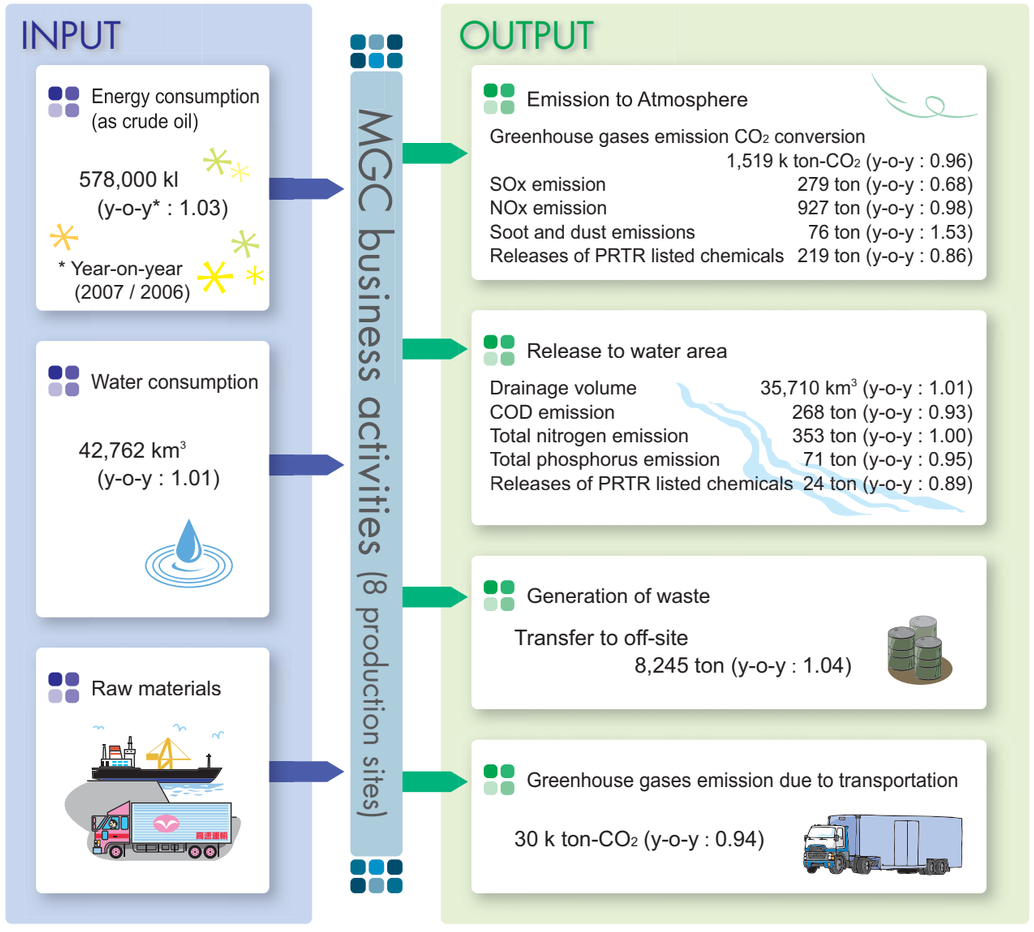
In order to ensure safety in distribution, MGC conducts audits of its distribution contractors. Audits of six distribution contractors were carried out in 2007.

Emergency response during transportation

MGC has installed emergency equipment at each business location and is capable of maintaining communication between business locations in the event of an emergency during transportation, which gives us networks ready to provide support over large areas. Using the emergency equipment maintained by this network we also actively cooperate with requests by local police and fire departments to provide assistance in the event of accidents during the transportation of the products of other companies.

Environmental Load in Our Business Activities

The overview of our environmental load status in fiscal 2007 (from April 1, 2007 to March 31, 2008) is shown below. Each plant makes efforts to ensure the efficient use of inputted resources and materials as well as the reduction of emission and waste



Production site Niigata plant, Mizushima plant, Kashima plant, Yokkaichi plant (including Naniwa plant and Saga plant), Yamakita plant, Tokyo Techno-Center

Energy consumption	Total amount of fuels (heavy oils, etc), purchased steam and purchased electric power consumed in our business activities
Water consumption	Total amount of drinking water and industrial water used for business activities
Greenhouse gases emission	Total emission volume of 6 Greenhouse gases (including purchase of steam, electricity power)
SOx emission	Total emission volume of SOx contained in exhaust gas
NOx emission	Total emission volume of NOx contained in exhaust gas
Soot and dusttt emissions	Total emission volume of soot and others contained in exhaust gas
Releases of PRTR listed chemicals	Release volumes of the listed chemicals to the air
Drainage volume	Volumes released to the public water area after treatment of drainage from our business activities
COD emission	Volume obtained with multiplying drainage volume by COD concentration in drainage
Total nitrogen emission	Volume obtained with multiplying volume of drainage by nitrogen concentration in drainage
Total phosphorus emission	Volume obtained with multiplying volume of drainage by phosphorus concentration in drainage
Waste transferred off-site	Volume of waste transferred off-site for external treatment

Environmental Accounting

MGC has been introducing and counting the environmental accounting along the guideline of the Ministry of the Environment since fiscal 2002. It is intended to be of help to the MGC's efficient environmental preservation activities and to keep clearness of our approaches by disclosing it to the public.

Environmental Preservation Cost

The environmental preservation cost is the cost which is required for environmental preservation activities. It is divided into investment and expense.
Investment is the cost to introduce facilities aiming at environmental preservation. Expense is the cost for operating and managing the introduced facilities, and cost for conducting research and development of environment-friendly products.

Investment

The total amount of investment in fiscal year 2007 was 1,080 million yen. Among this, the investment that related to water pollution prevention increased most with 42% of the total, and was 450 million yen. The main works were the modification of waste water treatment facility to increase its capacity in the Niigata plant and the renewal of waste water treatment facility in the Yokkaichi plant.

Cost

The total amount of cost in fiscal year 2007 was 10.6 billion yen. Among this, the cost for research development increased most with 27% of the total, and was 2,800 million yen, for water pollution prevention came to 23% of the total and was 2,400 million yen.

Effect of Environmental Preservation Activity

As an effect of environmental preservation activity, economic effects, such as cost reduction besides the effect about environmental preservation, were also obtained.

Environmental Preservation Effect

The green house gas emission, release of the PRTR listed chemicals, SOx emission and COD in effluent discharge were decreased compared with previous fiscal 2006. For additional information, details of actual values are summarized in the environmental load status in the previous page.

Economic benefit

The profit on sale of valuable waste and the effect of cost reducing by energy saving activities were obtained.

Economic benefit

Title	Item	Account (million ¥)
Income	Profit on sale of valuable waste	95
Cost saving	Effect by energy saving	142

Environmental preservation cost in FY 2007

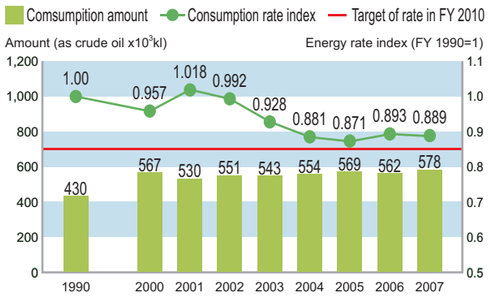
Breakdown			Main items for activity		Investment million ¥	Investment Ratio (%)	Cost million ¥	Cost Ratio (%)
Onsite cost	Pollution prevention cost	Air pollution prevention	Invest.	Incinerator etc.	115	10.6		
			Cost	Off gas scrubber etc.			568	5.4
		Water pollution prevention	Invest.	Facility making drainage harmless etc.	451	41.6		
			Cost	Waste water treatment facility maintenance			2,440	23.1
		Soil contamination, noise prevention	Invest.	Installation of noise reduction facility etc.	40	3.7		
			Cost	Soil contamination countermeasures etc.			1,394	13.2
	Global environmental preservation cost		Invest.	Reuse steam for saving energy etc.	142	13.1		
			Cost	Running and maintenance cost for power plant			1,613	15.3
	Resource recycling cost		Invest.	Installation of facility to check waste generation	16	1.4		
			Cost	Treatment of recycle			995	9.4
Up or down stream cost			Invest.		0	0.0		
			Cost	Management charge for recycle etc.			36	0.3
Management activity cost			Invest.	Maintenance of green space	58	5.4		
			Cost	Maintenance fee of environmental management			509	4.8
R & D cost			Invest.	Development for environment-friendly products	262	24.2		
			Cost				2,838	26.9
Social contribution cost			Invest.		0	0.0		
			Cost	Supporting local community			14	0.1
Environmental damage cost			Invest.		0	0.0		
			Cost	Compensation for environmental preservation			159	1.5
TOTAL					1,084	100.0	10,568	100.0

Approach to Global Warming Prevention

Regarding the change of the target of the medium-term plan,
MGC has been working against the global warming issue in the factory manufacturing section, the transportation section, the office section, and the home section. As for the approach in the centered factory manufacturing section, the improvement target (target in fiscal 2010) of the energy in the medium-term plan has been changed to 0.85 or less from 0.90 or less compared with fiscal year 1990 in the past, and MGC has been working hard to achieve it.

Energy saving activity

Trend of energy consumption amount and consumption



The amount of the energy consumption in fiscal 2007 on the basis of crude oil was 578,000 kl in manufacturing sections, and it had increased by 2.8% from the previous year. However, the energy consumption rate was decreased by 0.5% from the previous year and was 0.889 compared with fiscal 1990.
The effect of energy saving was 3,600 kl converted in terms of crude oil through the following measures as the energy saving activity in fiscal 2007.

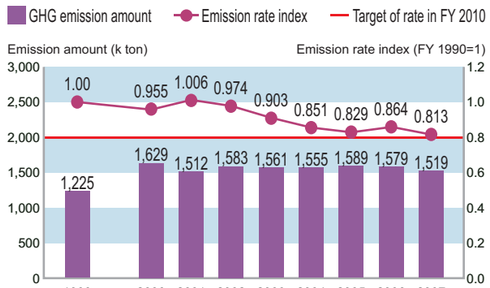
Energy saving by heat recovery from hot water (Kashima plant)

The warm water (about 70℃) generated at the Kashima plant is sent to the adjacent joint power generation company, and used as a heat source of the LNG vaporizer of gas engine fuel.

Countermeasures for reduction of Greenhouse Gas emission

In fiscal 2007, the amount of Greenhouse Gas (GHG) emission was 1,519 k tons in manufacturing sections and decreased by 3.8% from the previous year.
In the breakdown, the amount of CO_2 was 99% of the whole, and the amount of other five kinds of greenhouse gas emission was small. The GHG emission rate had been improved by 6% from the previous year and was 0.81 compared with fiscal 1990.
In addition, the conversion of heavy oil to natural gas at the Yamakita plant and Mizushima plant had contributed to the improvement of consumption unit.

Trend of Greenhouse gas (GHG) emission amount and emission rate



Plan to convert fuel to LNG (Mizushima plant)

At present, fuel conversion from heavy oil and by-product gas of steel plant to LNG is advanced one by one.
In response to this plan, the following measures have been conducted for energy saving.

- Increase the amount of own power generation by modification of gas turbine.
- Improvement of integrated thermal efficiency by introduction of exhaust air reheat boiler*
- Increase the amount of own power generation by installation of steam turbine.

* Exhaust air reheat boiler is the boiler which uses remaining oxygen in exhaust air of gas turbine. Thermal efficiency of the whole system is increased by using waste heat of gas turbine.

Newly installed exhaust air reheat boiler at the Mizushima plant

Development and Utilization of clean energy

MGC conducts the exploring development of natural gas in Niigata Prefecture, which is the clean fuel with few impurities such as sulfur content, and few CO_2 emissions.The obtained natural gas is used as a raw material and an energy source of the Niigata plant.
Also MGC takes part in the business that supplies geothermal steam, which is a kind of regenerable energy to the adjacent power plant in Hachimantai, Akita Prefecture.

Approach to Energy Saving in Distribution

After the act concerning the rational use of energy amended in April 1st, 2006, a specified consigner, who has cargo transportation or entrusts cargo transportation of more than 30,000 k tons • km, has been mandated to submit an annual plan and periodical report to the government.
The actual performance of energy consumption and amount of CO_2 emission in 2007 was as follows :

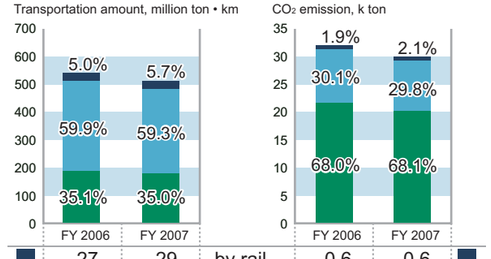
- Energy consumption: 11,000 kl (as crude oil, decreased by 6.1% from the previous year)
- CO_2 emission: 30,000 ton (decreased by 6.2% from the previous year)

Also unit consumption per transportation amount (ton • km) was as follows:

- Energy unit consumption : decreased by 0.9% from the previous year
- CO_2 emission unit consumption: decreased by 1.1% from the previous year

The fuel consumption improvement in modal shift to the railroad, in transportation with large-size truck, in ship transportation as energy conservation contributes to the unit consumption improvement.

Trends of transportation amount and CO_2 emission



FY 2006	FY 2007		FY 2006	FY 2007
27	29	by rail	0.6	0.6
324	304	by ship	9.6	8.9
190	179	by truck	21.7	20.4

Example in distribution

In the transportation of polycarbonate resin from the Kashima plant to Osaka, CO_2 emissions were greatly reduced by the use of railroad as trunk transportation as well as the enlargement of the transportation lot by changing the conventional 10-ton track to the ISO container.

ISO Container for Polycarbonate transportation

Approach to Energy Saving at the office and home

Energy savings such as Cool Biz, Warm Biz, turning off the light and power OFF of the personal computer when unnecessary are executed at the headquarters and each research institute.
In addition, measures such as introducing the high efficiency illumination, introducing the sensor to the rest room illumination and sticking the heat-shield film to the glass window at the office, promotion of further measures have been considered.
As for the approach to energy saving at home, the Japan Chemical Industry Association (JCIA) asks employees to take part in the promoted ABC (Acceleration By Chemical) activity.
In fiscal 2008, more than 500 volunteers of employees are participating and working by aiming at the reduction of CO_2 emission as 3 kg or more per day per person or as 500 ton or more per year on the whole as CO_2 reduction target.

ABC Activity promoted by JCIA

ABC is the activity to promote energy saving measures in the home life of employees in the field of chemical industry. Each participant sets the activity target of energy saving measures and checks the practical situation by himself.
"1kg per day per person; My challenge declaration" in "Team minus 6%" campaign promoted by the government is this activity base.
In our company, we have our own in-house award system and we conduct the activity and increase its effectiveness by creating an additional energy saving measure collection etc.

Approach to Chemicals Release Reduction

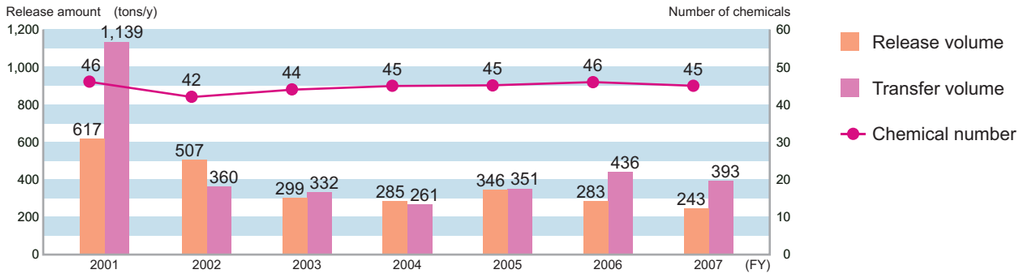
In order to reduce the release of chemical substances to the environment, a quantitative target for the release of chemical substances specified by the PRTR law and Volatile Organic Compounds (VOC) is set up in RC mid-term plan, and the approach for reduction has been continued.

Chemicals specified by the PRTR Law

In our assessment in fiscal 2007, 45 chemicals were those to be subjected to register out of 354 chemicals specified by the PRTR law. The total release amount was 243 tons (decreased by 40 tons, 14% from the previous year).

As for this, the approach to reduce Dichloromethane, the largest release amount (decreased by 51 tons, 30% from the previous year) is the key factor.
The transfer amount was 393 tons (decreased by 43 tons, 10% from the previous year). This is due to the reduction of the used washing solvent amount.

Trend of the specified chemicals in the PRTR law list



* The actural results in FY 2006 were revised

The registered chemicals on the basis of the PRTR Law (results in FY 2007)

No.	Reg. No	Chemicals	Release amount (tons/y)	Breakdown			Transfer total (tons/y)
				Air	Water	Soil	
1	145	Dichloromethane	118.9	118.9	0.0	0.0	8.7
2	63	Xylene	76.4	76.4	0.0	0.0	50.4
3	283	Hydrogen fluoride and its water soluble salt	17.8	0.4	17.3	0.0	1.0
4	227	Toluene	7.5	7.5	0.0	0.0	25.6
5	40	Ethylbenzene	7.3	7.3	0.0	0.0	0.0
6	304	Boron trifluoride and its compounds	3.1	0.1	3.0	0.0	0.1
7	310	Formaldehyde	2.9	1.0	1.9	0.0	16.1
8	253	Hydrazine	1.9	0.3	1.7	0.0	0.0
9	224	1,3,5-Trimethylbenzene	1.8	1.8	0.0	0.0	10.2
10	42	Ethylene oxide	1.6	1.6	0.0	0.0	0.0
11	299	Benzene	1.4	1.4	0.0	0.0	0.0
12	320	Methylmethacrylate	1.2	1.2	0.0	0.0	13.8
13	312	Phthalic anhydride	0.4	0.4	0.0	0.0	14.5
14	54	Epichlorohydrin	0.3	0.3	0.0	0.0	0.7
15	266	Phenol	0.3	0.0	0.3	0.0	43.4
16	108	Inorganic cyanide	0.1	0.0	0.1	0.0	0.0
17	-	Others (29 chemicals)	0.2	0.1	0.1	0.0	208.6
		Total (45 chemicals)	243.2	218.8	24.4	0.0	393.0

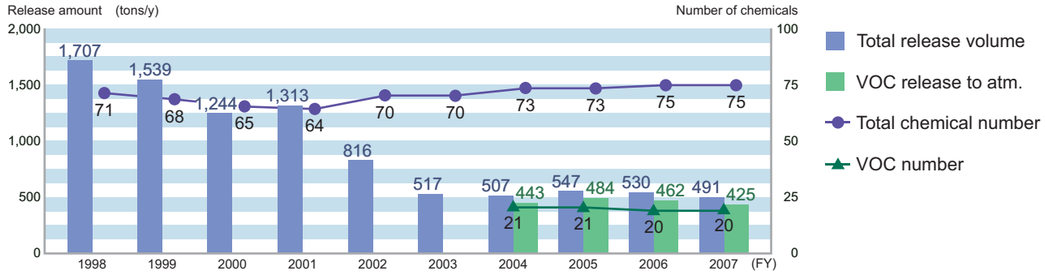
PRTR chemicals in the JCIA list

MGC has been voluntarily conducting the surveys and reduction of the PRTR chemicals listed by the Japan Chemical Industry Association (JCIA) release and transfer from our plants. In fiscal 2007, we had specified 75 chemicals as those to be assessed out of 481 chemicals specified by JCIA. The total release amount of these chemicals was 491 tons (decreased by 39 tons, 7% from the previous year). The key factor is the reduction of Dichloromethane release, the same as the case of PRTR listed chemicals.

PRTR

PRTR is the acronym of Pollutant Release and Transfer Register.
It is based on the Law Concerning Reporting, etc. of Release of Specific Chemical Substances to the Environment and Promotion of the Improvement of their Management (so-called PRTR Law), and is a mechanism according to which the amount of released and transferred harmful chemicals are grasped, totalized, and made public.

Trend of PRTR chemicals in the JCIA list



* The actual results in FY 2006 were revised

Volatile Organic Compounds (VOC)

Main VOC chemicals are included in the JICA's PRTR listed ones and MGC is concerned with 20 chemicals out of 75 listed VOC in fiscal 2007. Among 20 chemicals, 10 are chemicals specified by PRTR law such as Dichloromethane, Xylene etc. and the remaining 10 are Methyl alcohol, Methyl ethyl ketone, n-Heptane etc.,
The annual release amount of these chemicals to atmosphere was 425 tons, 87% of the total release amount of PRTR chemicals specified by JICA.
For this reason, the VOC release trend is almost the same as that of the JICA's PRTR

VOC

VOC is the acronym of Volatile Organic Compounds.

Reduction Results of chemical release

In the Responsible Care mid-term target (2006-2010), MGC has set the target to reduce 10% VOC release compared with fiscal 2004. In fiscal 2007, release of PRTR listed chemicals decreased by 15% compared with fiscal 2004. On the other hand, release of the JICA's PRTR listed chemicals and VOC chemicals decreased by 3% and 4%, respectively. MGC continues to work on the reduction of VOC chemicals release.

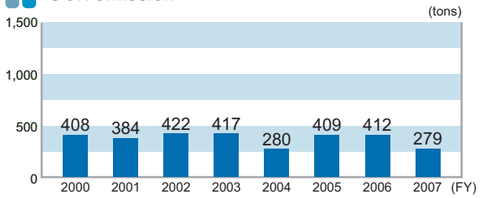
Approach to the Atmosphere, the Waters and the Soil

In order to prevent pollution, contamination of the atmosphere, waters and soil, MGC has conducted measures for reducing pollution and contamination further while conforming to the laws, ordinances and regulations. It is an approach by the side and measure different from the release reduction of the above mentioned PRTR chemicals.

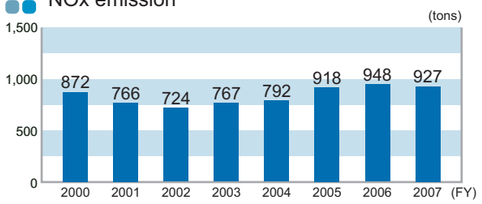
Prevention of Air Pollution

Sulfur oxide (SOx), nitrogen oxide (NOx), soot and dust etc. in the exhaust gas discharged from combustion facility, such as boiler, are measured, and their concentrations are strictly managed to keep the required values by laws and regulations. SOx emission was 279 tons in fiscal 2007, decreased by 134 tons, 32% from the previous year. This is the result of having converted fuel from heavy oil to natural gas. On the other hand, as for the boiler fuel, soot and dust have slightly increased because the use ratio of heavy oil increased by shortage of by-product gas fuel of steel plant. At present, countermeasures are under consideration.

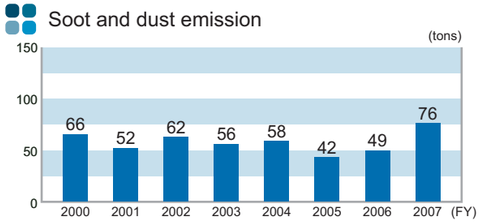
SOx emission



NOx emission



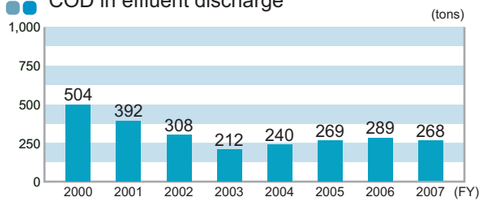
Soot and dust emission



Prevention of Water Pollution

The waste water from the production process is discharged to the river, sea and sewer through treatment facility of pH control, biodegradable processing etc.. The COD value, total nitrogen, total phosphorus, pH, etc. are measured, and the operation of waste water treatment facility is strictly managed to keep the values regulated by laws. The COD value and total phosphorus in fiscal 2007 have slightly decreased but total nitrogen has been flat compared with the previous year.

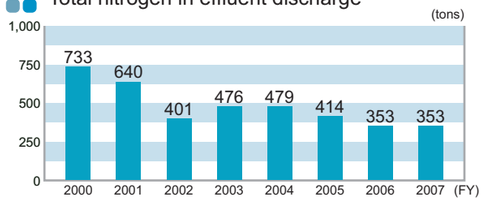
COD in effluent discharge



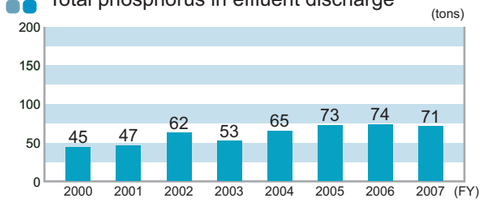
COD

COD is the acronym of Chemical Oxygen Demand.

Total nitrogen in effluent discharge



Total phosphorus in effluent discharge



* As for Sox, NOx, soot/dust and COD, actual results in the past were revised.

Investigation of Soil Contamination

In the case of facility abolition or construction, the pollution situation of soil and groundwater is investigated according to regulations and ordinances, and the required measures are conducted. MGC had conducted land pollution investigation at the Tokyo Techno-Center and found that the concentration of a chemical exceeds prescribed standard. Countermeasures to this environmental problem had been conducted since August 2007 and completed in August 2008.

Zero Emission of Waste

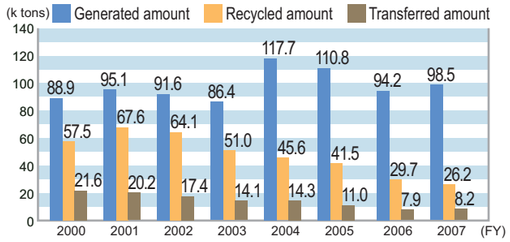
The zero emission in MGC has been defined as the decreasing the amount of final disposal to 0.3% or less of the amount of waste generation by the promotion of 3Rs. Under this definition, MGC has been working on achievement of zero emission by 2010.

3Rs; Reduce, Reuse and Recycle

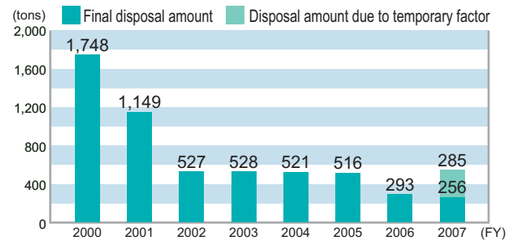
Results of waste reduction

The amount of waste generation (increased by 5%), waste to off-site (increased by 4%), and final disposal for landfill (increased by 85%), were increased in fiscal 2007 from the previous year. The reason for the significant increase of final disposal for landfill was due to generating of temporary remaining soil (total 285 tons) by relocating treatment of sludge dryness facility at the Mizushima plant.
The reduction of recycling amount was due to the decrease of generated waste oil etc. used as fuel.

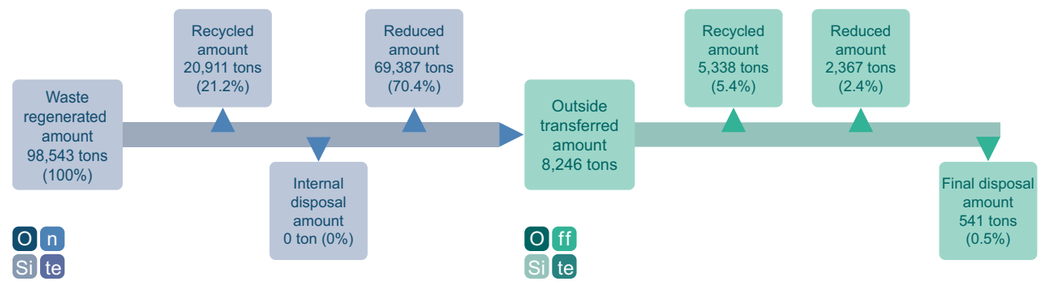
Trend of waste generation, recycling and transfer



Trend of final disposal



Results of waste treatment in fiscal 2007



Zero emission status of waste

Four out of 8 production plants achieved the zero emission in fiscal 2007.

Zero emission achievement plants

	2006 FY	2007 FY
Niigata plant	0.24%	0.23%
Yamakita plant	1.59%	0.19%
Naniwa plant	0.12%	0.12%
Saga plant	18.2%	0%

Zero emission : Final disposal for landfill÷Generated amount ≦0.3%

The Yamakita plant and Saga plants achieved zero emission in fiscal 2007. On the other hand, the Mizushima plant, which achieved zero emission in 2005 and 2006, could not achieve it in fiscal 2007 due to the above mentioned reason, but is expected to reach the goal in fiscal 2008.

Control of PCB (Polychlorinated biphenyl)

The used equipments that contain PCB are under the strict control by MGC based on PCB special measure method.
MGC completed early treatment registration to the Japan Environmental Safety Corporation (JESCO), but there was no actual treatment results in 2007.
The used equipments that contain low concentration of PCB is under the strict close control by MGC until the final treatment procedure is decided.

Environmental Communications

MGC is strongly aware of its role as a member of society, and strives to earn the trust of the public through its pursuit of a range of communication activities relating to the environment.

Information disclosure

Environmental report publication

MGC issues an environmental report (renamed the Responsible Care Report in 2007) outlining MGC initiatives in Environment and Safety in both Japanese and English, and distributes this to government, related businesses and local communities. These reports are available on the MGC website, as are reports from previous years.
MGC's information disclosure also includes publication of annual environmental site reports for certain plants.

Previous environmental reports

Niigata plant site report

Participation in JRCC community dialogue meetings

• March 17, 2007
A JRCC community dialogue was held for the northern area of Niigata Area, organized and presented by MGC's Niigata plant. Although the JRCC has only four member companies in the northern area of Niigata, more than half of the participants were either local residents or government officials, ensuring that this forum for lively discussion held to true to its name as a community dialogue.

• February 23, 2007
Community dialogue for Kashima area (attended by the Kashima plant)

Participation in environment-related exhibition

MGC Group had a booth at the Inchem Tokyo 2007 convention, which was held at Tokyo Big Sight from November 6 to November 9, 2007. MGC attracted interest from a large number of attendants at the exhibition, holding exhibits and demonstrations for seven products, including DMFC (direct methanol fuel cell) and damping material Neofade®.

INCHEM TOKYO 2007

Social contribution

Acceptance of trainees from OPCW*

OPCW, an international organization for the implementation of legislation prohibiting chemical weapons, carries out company training for technicians in developing countries at modern chemical facilities in advanced countries. The purpose of the training is to train specialized inspectors to oversee compliance with the relevant legislation.
At the request of the OPCW, MGC accepted two trainees from Asia to its Mizushima plant in 2007, and for seven days provided structured practical training in MGC's safety management system, its procedures and the legislative background to these, with a focus on plant safety and environmental preservation as main themes.

*OPCW : Organization for the Prohibition of Chemical Weapons

Disaster aid

MGC provided monetary donations through the Japanese Red Cross Society for victims of the Szechuan earthquake in China and cyclone Nargis in Myanmar.

Responsible Care Activities in Affiliates ①

Niigata Plant

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

With the Japan Sea to the north and the river Agano to the west, the Niigata plant is located in an area of plentiful water and beautiful greenery. The plant pursues RC activities with the basic policy focuses of zero accidents, zero occupational injuries and environmental preservation. Despite these efforts, however, a serious accident occurred at the Niigata plant in December 2007. All employees at the plant have returned to the fundamental principles of "zero accidents, zero occupational injuries" and "safe, reliable and stable operations", and are working to enable he plant to earn the trust of all members of the community.

Main products

- Methanol, Ammonia, and their derivatives
- Methaxylene diamine
- MX Nylon
- Bio-related products

Working with the community

Clean up of illegally dumped garbage

In October 25, 2007, MGC's Niigata plant participated in activities to clean up illegally dumped garbage near the east port of Niigata. The area around the east port of Niigata is of key importance to the Niigata plant since it serves as a base for the receipt of raw materials and shipping of finished products by the plant and we also have several natural gas bases in the area. Residents of the area expressed gratitude for the activities carried out during the cleanup day.

Reserve forest area

The area between the Niigata plant and Youkou housing estate, designated as a reserve forest area by Niigata Prefecture, has suffered increasing damage by pine weevils in recent years. In 2007 Niigata Prefecture and the Niigata plant began collaborating on a three-year forest conservation program to address this problem. Several species of trees are being planted as part of the program, with Niigata Prefecture planting black pine on the MGC side of the housing estate, and MGC sowing seeds of cheery blossom, Japanese zelkova, camellia, and bamboo leaved oak on the housing estate side of its property.

Youkou Residents Association visits the Niigata plant

On September 2, 2007, forty members of the Youkou Residents Association attended a meeting at the Niigata plant to discuss the forest conservation program, as well as explain the plant's response to local residents' complaints concerning vibration, noise, sirens and road manners.

Environmental impact data (2007)

Water consumption (km^3)	13,957
GHG emission (as CO_2) (k tons)	499
NOx emission (tons)	407
SOx emission (tons)	0
Total drainage volume (km^3)	9,484
COD emission (tons)	60
Waste transferred offsite (tons)	3,103
Final disposal waste (tons)	144

PRTR substance name	Release (tons)	Transfer (tons)
Ethylene oxide	1.6	0
Methyl methacrylate	1.2	13.8
Vanadium pentoxide	0	2.8

Responsible Care Activities in Affiliates ②

Mizushima Plant

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

Seto Ohashi, the bridge to link Honshu and Shikoku island celebrated the 20th anniversary by the end of this year. The Mizushima plant also has a lot of aging equipment, and the approach for inspection repair of carbon steel piping and improvement of self-security management in 3-year plan has been conducted. Moreover, the issue of "KANPO • NEWS", and activity of renewal of safety pocketbook are also tackled as a new educational campaign to remind of the explanation of related regulations and safety work.

Main products

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

Disaster prevention training

Firefighting training at Mizushima industrial complex

New type of fire engine

Emergency lifesaving drill by rescue team

Conduct various training in preparation for the emergency

Environmental impact data (2007)

Water consumption (km³)	12,490
GHG emission (as CO_2) (k tons)	685
NOx emission (tons)	475
SOx emission (tons)	275
Total drainage volume (km³)	11,116
COD emission (tons)	140
Waste transferred offsite (tons)	2,705
Final disposal waste (tons)	309

PRTR substance name	Release (tons)	Transfer (tons)
Xylene	76.4	50.4
Hydrogen fluoride and its water-soluble salt	17.8	0
Ethylbenzene	7.3	0

Safety convention

The safety convention is held in July every year with subscribed posters and elected excellent works.

Other topics (2007)

- Mr. Ishida, Manager of the Mizushima Aroma production section was commended in the section of the person in charge of excellent production self-security management of the Mizushima industrial complex district at the Okayama High Pressure Gas Safety convention.
- 15 persons participated in "Refresh Mizushima port clean operation".

Kashima Plant

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

With the lake Kasumigaura to the north, the river Tonegawa to the west and the sea Kashimanada to the east, the Kashima plant is located in the Kashima sea side industrial zone surrounded by these advantages. Taking the advantage of the location of this industrial complex, we are aiming at the improvement in safety culture of not only our plant but the whole industrial complex by cooperating with neighboring companies to exchange periodically information about Occupational Safety and Health, Disaster Prevention, Environmental Prevention and Safety of Chemical Substances.

Main products

- Hydrogen peroxide
- Polycarbonate

Safety activities

Subcontractors also participates in the safety meeting (safety day)

Overall safety convention at annual shutdown

Environmental impact data (2007)

Water consumption (km³)	1,896
GHG emission (as CO_2) (k tons)	191
NOx emission (tons)	7
SOx emission (tons)	0
Total drainage volume (km³)	1,661
COD emission (tons)	13
Waste transferred offsite (tons)	486
Final disposal waste (tons)	8

PRTR substance name	Release (tons)	Transfer (tons)
Dichloromethane	114.1	2.8

Disaster prevention activities

Disaster prevention training

Toxic gas leakage emergency drill

Receiving environmental award from Ibaraki Prefecture

Environmental activity was commended in the environmental management section of "Earth-friendly corporate commendation in fiscal 2007" in the earth environment forum on June 22, 2007.
ISO 14001 acquisition, improvement of unit consumption of energy and CO_2, reduction of COD, atmospheric soot, and industrial waste emission were evaluated.

Responsible Care Activities in Affiliates ③

Yokkaichi Plant

Address : 2-4-16 Hinagahigashi Yokkaichi City, Mie 510-0886, Japan
Phone : +81-59-345-8800

Facing the Ise bay in the east and the Suzuka mountain range in the west, the Yokkaichi plant is located in the corner of a very scenic Yokkaichi industrial Complex. In the past, there was also time that it was called "town of pollution", but there is no even such image at present. At the Yokkaichi plant, we have conducted our production activity in consideration of the living environment such as conversion of fuel from coal to natural gas for boiler, assessment of environment risk for newly installed facility etc.

Main products

- Hydrogen peroxide
- Chemicals for electronic industry
- Polyacetal

Working with the community

Environmental safety conference of Southern industrial area

The 15 factories located at the Southern of the Yokkaichi industrial complex, neighboring autonomous chairman, vice chairman, and environmental safety section, firefighting headquarter of Yokkaichi city have a meeting twice a year. The announcement of annual shutdown schedule, plant expansion schedule, report rule of the accident etc. are informed. We held this meeting as managing company on August 22, 2007.

Acceptance of plant tour

Explanation to junior high school students who visited the plant

Street guidance of traffic safety

Street guidance of traffic safety was performed at the crossing of narrow roads and for heavy traffic.

Cleanup activity around the plant

Cleanup activity around the plant at the National Occupational Health Week

Measures against noise

Although the renewal of a chimney along with conversion of fuel from coal to natural gas for boiler and repair work of attached facility were carried out, residents living close to the factory complained of the noise after that. This problem is solved by installing a silencer at the top of the chimney after investigating the cause and measures while consulting with related administration.

Environmental impact data (2007)

Water consumption (km³)	7,500
GHG emission (as CO_2) (k tons)	92
NOx emission (tons)	30
SOx emission (tons)	3
Total drainage volume (km³)	6,128
COD emission (tons)	45
Waste transferred offsite (tons)	614
Final disposal waste (tons)	4

PRTR substance name	Release (tons)	Transfer (tons)
Hydrazine	1.9	0
Formaldyhyde	2.0	16.1

Yamakita Plant

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

Located close to Sakawa river and surrounded by Fuji, Hakone and Tanzawa mountains, the Yamakita plant has been operated in the advantaged environment. In order to keep this advantaged environment, we can not depend too much on abundant water resource but must attempt to save resources and energy. In addition, we continue to work on strengthening further trust relationship with local residents by introducing measures for the RC activities of MGC and so on.

Main products

- Derivatives of hydrogen peroxide
- Persulfates

Environmental safety activity

October 24, 2007
Participated in the section of compact power pump of the fire fighting competition sponsored by fire prevention safety association.
(Messenger at the end of communication from the 1st member to the commander)

June 13, 2007
Working on the environmental load reduction of the factory was evaluated and given "environment excellent special award" by the in-house commendation system. As a result, the memorial tree was planted.

Working with the community

- Information forwarding to Kanagawa ECO network
  http://www.pref.kanagawa.jp/osirase/iso/98/econet00.html
- Cleanup activity around the plant
- Opening the factory gymnasium (local high school)
- Acceptance of trainees for work-study (local junior high school)
- Participation to local activity and event
  Yawata shrine festival
  Summer festival organized by resident's association
  flower road (planting, weeding) etc.

Environmental impact data (2007)

Water consumption (km³)	6,765
GHG emission (as CO_2) (k tons)	31
NOx emission (tons)	2
SOx emission (tons)	0
Total drainage volume (km³)	5,856
COD emission (tons)	10
Waste transferred offsite (tons)	425
Final disposal waste (tons)	1

PRTR substance name	Release (tons)	Transfer (tons)
Hydrogen fluoride and its water-soluble salt	0	1.0

Tokyo Techno-Center

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

Conducting environmental measures for soil pollution at the Tokyo Techno-Center since last year, and TTP (Tokyo Techno-park) construction work have been started since March this year. Before starting the construction work, MGC and construction company held the explanatory meeting to neighboring residents to get their understanding in advance.
In addition, we continue to conduct the cleaning of the outside of the plant once a month and concentrate on environment and safety activities as a business office that develops with the community in the future.

Main development themes

- Electronic materials
- Oxygen absorbers

Monthly outer cleaning scenery

Taking part in the self-defense fire fighting in the annual inspection meeting

Topics

Tokyo Techno-Center A hall received the certification (excellent mark) as the "excellent fire prevention object" from the Kanamachi fire department on August 31, 2007.

Tokyo Research Laboratory

Address : 6-1-1 Niijuku Katsushika-ku,
Tokyo 125-0051, Japan
Phone : +81-3-5699-9711

The RC activity of the Tokyo research laboratory is performed by 11 groups including the analysis center. Various chemicals are treated for research. Therefore, prior check of safety is taken seriously. As a result, there is no accident, no disaster until today. The surrounding is an urban redevelopment area of the high-rise apartment building. In order to assure the coexistence with the neighboring area, environmental patrol in the plant is conducted and environmental safety activity is promoted.

Main research themes

- Electronic materials
- Specialty chemicals
- Environmental chemicals
- Nanotechnology
- Next-generation materials

The 5S activity (as RC education) was conducted.

RC campaign gathering

Niigata Research Laboratory

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

The Niigata research laboratory is adjacent to the plentiful greenery of the Niigata plant. Using this advantage, utility receiving and activated sludge treatment of experimental drainage or combustion of experiment waste etc. are carried out there.
The Matsuhama region is popular for the festival event from old times and young people are called to participate in the event once a year.
Every one understands what he (she) should do in daily activity to develop the RC activity.

Main research themes

- Process improvement
- Catalyst
- Pharmaceutical intermediates
- New energy source
- Biotechnology
- Life science

Taking part in the Matsuhama festival and having direct relationship with loca people are important.

A fire fighting drill was performed by actually using a fire extinguisher.

Topics

The Niigata research laboratory has continued the record of "no accident" and "no disaster" for 22 years.

Hiratsuka Research Laboratory

Address : 5-6-2 Higashiyawata Hiratsuka City,
Kanagawa 254-0016, Japan
Phone : +81-463-21-8600

At the Hiratsuka research laboratory, we have conducted the extraction of "near miss" as our main safety and health activity. By having purchased the JSP vacant lot, the lot area became twice, and the maintenance and check activity of safety-related facility increased largely but we do it energetically.
As a part of our contribution to the region, we conducted cleaning activity around the company, planting at the flower garden of the Sagami river area and accepted the laboratory tour for local high school students.

Main research themes

- Specialty resins
- Paints, adhesives
- Packaging materials
- Resist materials

Conducted flower planting and cleaning at the Sagami river garden and the vicinity

Laboratory tour of Ohara high school students

Disaster prevention training (50 companies participation) is carried out at the end of August every year. We also took part in it.

MGC Group's Environmental and Safety Activities ①

MGC Group's Policies on Environment and Safety

[Environmental and safety targets]
Zero accident, Zero occupational injury and Environmental preservation

[Fundamental policies]
- Ensuring of health and safety in our operations
- Securing security management of facilities and increasing self-maintenance technologies and skills
- Reducing environmental loads in business activities
- Ensuring safety in use, handling and disposal of products
- Developing environment-friendly and safety-conscious products and technologies
- Ensuring environmental preservation and safety in the logistics of obtaining raw materials and storing and delivering our products
- Enhancing of society's confidence to us

Environmental loads by MGC group

The following tables show the environmental loads by MGC in fiscal 2006 and 2007.

The number of production sites in MGC group			
Fiscal 2006 (MGC and 14 affiliates)		Fiscal 2007 (MGC and 14 affiliates)	
MGC	8 production sites	MGC	8 production sites
Affiliates	33 production sites	Affiliates	32 production sites

INPUT		Unit	FY 2006	FY 2007
Energy consumption (as crude oil)		10^3kl	671	689
Water consumption		km^3	47,994	47,781
Breakdown	Tap water	%	2	2
	Ground water	%	4	3
	Industrial water	%	56	55
	River water	%	35	36
	Others	%	3	3

OUTPUT	Unit	FY 2006	FY 2007
Emissions to atmosphere			
GHG emission (as CO_2)	k tons	1,847	1,766
SOx emission	tons	463	328
NOx emission	tons	1,082	1,006
Soot and dust emissions	tons	63	86
Release of PRTR substances	tons	1,311	1,241
Release to water area			
Total drainage volume	km^3	39,137	39,490
COD emission	tons	342	309
Total nitrogen emission	tons	390	381
Total phosphorus emission	tons	77	73
Release of PRTR substances	tons	35	35
Release to soil	tons	0	0
Generation of waste			
Transferred off-site	tons	36,245	40,346
Final disposal	tons	1,951	1,954
Transfer of PRTR substances	tons	837	914

(The total in FY 2006 was revised after checking the number of affiliates and production sites)

MGC group's environmental and safety conference

The 14 affiliates that deal with chemical substances of MGC group have been promoting the environmental and safety activities in MGC group's environmental and safety conference (hereafter, conference).
The main activities are as follows.

MGC group's environmental and safety meeting

The meeting is held twice a year for reporting or reviewing the annual target, result of activities, status of accident and occupational injury etc. of MGC and each affiliate.

At MGC Head Office

Environmental and safety inspection

The environmental and safety activities of several affiliates are inspected every year by Director in charge of environment and safety in MGC. The inspections of Japan U-PiCA Co., Ltd, Electrotechno Co., Ltd, MGC Filsheet Co., Ltd were conducted in 2007.

Inspection at Electrotechno Co.

Inspection at MGC Filsheet Co.

Environmental and safety inspection for overseas affiliates

The environmental and safety inspection for overseas affiliates are also conducted to support their environmental and safety activities even if they do not participate in the conference. The inspections of the two Korea affiliates (Samyoung Pure Chemicals Co., Ltd. and Korea Engineering Plastics Co., Ltd.) and one Taiwan affiliate (MGC Pure Chemicals Taiwan INC.) were conducted.

At Korea Engineering Plastic Co., Ltd.

At MGC Pure Chemicals Taiwan INC.

MGC Group's topics

JSP Kanuma 1st plant
Participated in "Eco-life fair in Kanuma". Panel related to environmental-friendly products and recycling was exhibited.

Japan Pionics Co., Ltd.
The President message, lecture of safety, report on safety activities, commendation of safety activities are conducted on March 15 every year as "a day to think of safety".

Japan Circuit Industrial Co., Ltd.
Fire fighting drill

Toyo Kagaku Co., Ltd.
Award winning of environment person of merit of Mitake-cho

Electrotechno Co., Ltd.
Participated in Saigo village ekiden road relay with wonderful results, won the championship the year before last and 2nd place last year.

Shin Sanso Kagaku Co.
Participated in cleaning activity of commuting road in Spring and Autumn sponsored by Seaside Corporate Union since operation.

Eiwa Chemical Industrial Co., Ltd.
Fire fighting training drill

MGC Filsheet Co., Ltd.
5S meeting in new 5S small group activity

Japan Finechem Co., Ltd.
The comprehensive disaster prevention drill with adjacent companies was conducted.

Yonezawa DIA Electronics Co., Ltd.
Company-made lantern at Uesugi snow lantern festival

Japan U-PiCA Co., Ltd.
Thorough measures of leakage prevention at work during annual shutdown.

Fudow Co., Ltd.
Hold the study meeting of C-TPM activity again and again for all employees. The TPM introduction was declared in May and the activity was started on the basis of "at first, arrange and put in order".

MGC Group's Environmental and Safety Activities ②

A.G. International Chemical Company Inc.

Manufacture and sale of purified isophthalic acid

Tokyo Sakurada Bldg., 1-1-3, Nishi-Shinbashi, Minato-ku, Tokyo 105-0003, Japan
Phone : +81-3-3503-4811 http://www.agic.co.jp/

President Yoshio Kawazoe

We achieved zero accident, zero occupational injury in 2007. We implemented near-miss reporting activities, occupational safety risk assessment, and energy and GHG gas emissions unit improvement, among other environment and safety initiatives. In addition, we prepared 155 procedural cards for reading prior to non-routine work to improve work safety; these cards are also useful for educating new recruits.

Eiwa Chemical Industrial Co., Ltd.

Manufacture and sale of blowing agents

Daido Seimei co. Kyoto Bldg., 595-3, Sanjio-sagaru Karasuma-dori, Manjuya-cho, Nakagyo-ku, Kyoto-City, Kyoto 604-8161, Japan
Phone : +81-75-256-5131 http://www.eiwa-chem.co.jp/

President Yasuki Yamase

Our Kinuura plant is located on coastline near Ise Bay. Extensive shellfish beds are located all around the bay from March to May, and even areas near plant wastewater outlets provide fishing grounds for wild clam. To prevent red tide, we eliminate nitrogen from our wastewater, and continuously monitor the water quality of our wastewater. Unique in Japan as a manufacturer of organic blowing agents, we are strongly committed to fulfilling our social responsibility.

JSP Corporation

Manufacture and sale of foamed plastics

Shin-Nisseki Bldg., 3-4-2, Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan
Phone : +81-3-6212-6300 http://www.co-jsp.co.jp/

President Rokurou Inoue

We implemented environmental gas emission reduction measures at our nine plants from Hokkaido to Kyushu. In particular, the start of operation in October 2006 of our Kanuma distribution center is expected to result in a substantial reduction in distribution-related emissions. As part of our effort to eradicate accidents we implement safety initiatives at each plant, including hazard prediction activities and near miss reporting case studies.

JAPAN FINECHEM Co., Inc.

Manufacture and sale of chemical products and electronic parts

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

President Norio Hakuta

The Sakaide plant was established in an industrial area bordered by salt fields. The salt fields were subsequently abandoned and the zone redeveloped as a residential housing area. With residential housing in its immediate vicinity, the plant has faced strict demands relating to air quality, odor, and other issues. We have reinforced our equipment for eliminating gas emissions and implemented measures to reduce smoke emissions from boiler chimney.

MGC Filsheet Co., Ltd.

Manufacture of PC sheet

4-2242, Mikajima, Tokorozawa-City, Saitama 359-1164, Japan
Phone : +81-4-2948-2151 http://www.mgcfs.jp/

President Yukio Suzuki

The Tokorozawa plant is on the edge of a residential town with a view of tea fields and the Chichibu mountains. Around 40% of our employees are housewives working part time and temporary staff over the age of 60. Building on our experience and cooperating with employees, we carried out activities to improve our initiatives in the areas of the environment, safety, and product quality, and reports on progress with these activities are presented at 5S meetings each month. The results of these activities are announced at the end of the year, and outstanding achievements are rewarded at a prize ceremony.

Electrotechno Co., Ltd.

Manufacture of copper clad laminates for printed circuit board

9-41, Aza-Sugiyama Oaza-Yone, Nishigo-mura, Nishishirakawa-gun, Fukushima 961-8031, Japan Phone : +81-248-25-5000
http://www.ab.auone-net.jp/~electro/index.html

President Toshio Kawasaki

Located in a historic castle town of the Shirakawa clan, our plant enjoys a beautiful natural setting, with the Nasu mountain range to the south and west, the Abukuma river in the north, and many hot springs nearby. We have continued 5S activities for many years, and we have positioned these as the base for all our activities. We aim to further boost our onsite capabilities through near miss reporting and hazard prediction activities.

SHIN SANSO KAGAKU Co.

Manufacture of hydrogen peroxide

148-58, Yufutsu, Tomakomai-city, Hokkaido 059-1372, Japan
Phone : +81-144-55-7337 http://www.sskc.co.jp/

President Kenji Koizumi

Located near Lake Utonai, a registered site with the Ramsar Convention on Wetlands, we operate in an area that combines natural beauty with an excellent distribution infrastructure. Having acquired ISO14001, all our employees have made it their top priority to further reduce our environmental burden. We are also cooperating with construction contractors on large-scale maintenance work aimed at strengthening our capabilities, reducing environmental impact and ensuring safety.

Toyo Kagaku Co., Ltd.

Manufacture of injection molding processed products

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

President Kazuo Noguchi

Safety is our first priority, and at our plant, which is in a region affected by Tokai and Tonankai earthquakes, we have installed an earthquake warning system terminal to prevent casualties, and we also carry out evacuation drills. Positioned on a plateau overlooking the equalizing reservoir that supplies water across Aichi from the eastern Owari area to the Chita peninsula, we adopt an environmentally conscious stance throughout all of our production activities.

MGC Group's Environmental and Safety Activities ③

Japan Circuit Industrial Co., Ltd.

Manufacture and sale of printed circuit boards

2-1236, Kamiike-cho, Toyota-City, Aichi 471-0804, Japan
Phone : +81-565-88-3718　http://www.jci-jp.com/

President Kouzou Yamane

We carry out the manufacture and sale of high performance printed circuit boards from our location in Toyota, which is in Korankei, a gorge famous for its autumn colors. Having acquired ISO14001 certification and established an environment and safety department in 2006, we are implementing safety initiatives based on near miss reporting activities, hazard prediction training, and 5S activities. We are working to preserve the natural beauty of our surroundings, conserve the Earth's environment, and achieve zero accidents and zero occupational injury.

Japan Pionics Co., Ltd

Manufacture and sale of gas purifiers and surface heater

Tokyo Sakurada Bldg., 1-1-3, Nishi-Shinbashi, Minato-ku, Tokyo 105-0003, Japan　Phone : +81-3-3506-8801
http://www.japan-pionics.co.jp/

President Ryoichi Takahashi

Our two main plants are in the Shonan area. One feature of this area is that, although it has many factories, there are also many people living here who commute to work in Tokyo. We are therefore very sensitive to safety and environmental issues, and, under the guidance of local government, participate in regional discussions to address these, sharing of information, as well as pursuing safety initiatives (5S, hazard prediction, near miss reporting, and risk assessment, among other activities).

Mizushima Aroma Co., Ltd.

Manufacture and sale of purified terephthalic acid

2-3-1, Mizushima-nakadori, Kurashiki-City, Okayama 712-8072, Japan
Phone : +81-86-446-4570

President Kunisuke Usuda

As part of the MGC Mizushima plant within which we are located, we pursue ISO14000 and other environment and safety activities, emergency drills and other safety management and disaster prevention activities, and safety initiatives such as safety patrols and safety and health committee activities.

Yonezawa DIA Electronics Co., Ltd.

Manufacture of printed circuit board substrates and entry sheets for mechanical drilling

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

President Hidenobu Fujimori

Our factory is located at the head of the Mogami river, in an area of rich natural beauty throughout the four seasons, and our products include mass molding laminates and lubricated entry sheets. In January 2008, we achieved a continuous record of 3,000 days of zero occupational injuries. Having acquired ISO14000 in August 2007, we are all working as a team to further improve our environment and safety initiatives.

Japan U-PiCA Co., Ltd.

Manufacture and sale of unsaturated polyester

Madre Matsuda Bldg., 4-13, Kioi-cho, Chiyoda-ku, Tokyo 102-0094, Japan
Phone : +81-3-3503-3981　http://www.u-pica.co.jp

President Tomihiro Ogino

Inspired by the blue sea of Shonan and surrounding greenery, we aim to live in harmony with nature and follow the motto "Think globally act locally" as we work to prevent environmental pollution. We also aim to carry out safe operations based on compliance with laws and regulations and through streamlining 5S, internal reporting and communication to achieve zero accidents and zero occupational injuries.

Fudow Co., Ltd

Manufacture and sale of resins and molded components

No.7th Daigo Bldg., 7-20-5, Nishi-Kamata, Ota-ku, Tokyo 144-0051, Japan　Phone : +81-3-3737-0611
http://www.fudow.co.jp/e-index.html

President Yuuji Takamizawa

Our Fujimiya plant received an inspection by the Fuji Labor Standards Supervision Office in November 27, 2007, and we have been drawing from this experience as we prepare a checklist for a full range of items covering operating personnel, equipment and devices, and environmental health, based on the motto, "Safety takes priority over efficiency." We have established the system for environment and safety, giving particular emphasis to checks of the basic conduct of operating personnel, while also implementing risk assessment of risk and harmfulness.

MGC Group's main environmental products and technology

■ Bio Micron L (JSP)

Completely biodegradable foam sheet with excellent durability.
Can be used at temperatures ranging from room temperature to 50 degrees, or up to 100 degrees when specially treated. Lightweight and offering superior moldability, the strength of Bio Micron L exceeds that of other biodegradable resins. Since it is a foam product it also enables conservation of resources.

■ Dry exhaust gas purification device (Japan Pionics)

We produce and sell an exhaust gas purification device that combines a simple flow-engineered duct system with a highly effective bioclean cartridge to safely and economically render harmless the toxic gases emitted in the production of semiconductors.

■ Wind turbine propellers (Japan U-PiCA)

These propellers are molded using unsaturated polyester resin.