



Responsible Care Status Report 2007

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



Profile of MGC

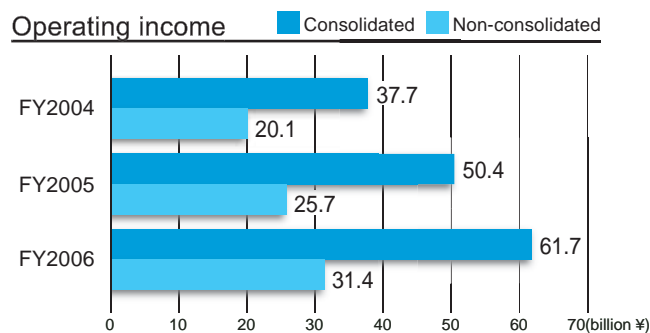
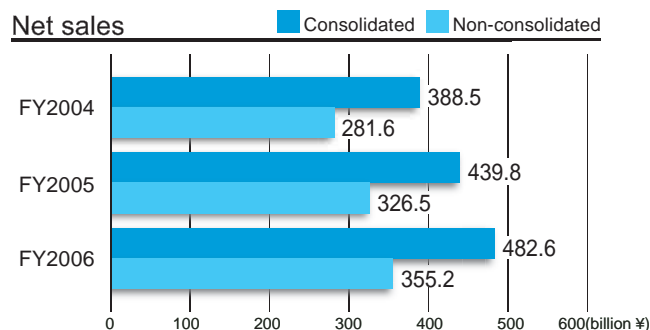
Profile of MGC (as of March 31, 2007)

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	4,561 (Consolidated) 2,151 (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: 31



Main products

Natural Gas Chemicals Company	Methanol Formalin Ammonia Methylamines Methyl methacrylate Methacrylates	Polyols Dimethylether Ubidecarenone (Co-enzyme Q ₁₀) ASC Super (Catalase) Hydrogen generation device from methanol Catalysts
Aromatic Chemicals Company	m-Xylene o-Xylene p-Xylene Methaxylylene diamine 1,3-BAC	MX nylon resin Toluic acid Aromatic aldehydes Trimellitic anhydride Pyromellitic anhydride
Specialty Chemicals Company	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®)
Information and Advanced Materials Company	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

In 2007, Mitsubishi Gas Chemical Company, Inc. (MGC) has changed the month of publication of Environmental Report from every March to every October for reflecting the latest annual environmental performance data. Therefore, please note that the part of contents in this report is republished from Responsible Care activities in the 2006 edition. Meanwhile, please also note that the report title is changed from Environmental Report to Responsible Care Status Report "Environment, Health and Safety activities of Mitsubishi Gas Chemical Company, Inc.".

Editorial policy

This Responsible Care Status Report 2007 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, Dialogue with the community, Spectrum of RC) widely, and to promote our own RC activities.

Scope of this report

Sites covered:

All MGC's domestic workplaces

The environmental performance data are based on only those of plants where the production is carried out.

Period covered:

From January 1, 2006 to December 31, 2006

Provided that the period of the environmental performance data are those from April 1, 2006 to March 31, 2007.

Publication:

October, 2007

The next publication scheduled:

October, 2008

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Representative Director, President Kazuo Sakai

Message from the President

In recent years, it has become an issue of huge social importance that corporate compliance violations have emerged so frequently in Japan in various areas.

We are required by compliance rules to establish an untroubled, safe and stable situation in regard to society early on and then to continue, and therefore each and every one of us thinks of him or herself into committed to compliance for the purpose of creating such a social climate.

At Mitsubishi Gas Chemical Company, Inc. (MGC), our all board members and employees have strongly recognized the importance of corporate compliance through the company's established internal rules and endeavored to secure it.

I therefore am delighted to introduce you to our environmental and safety activities under Responsible Care (RC) initiative under which the chemical industry is required to preserve the environment and promote safety.

Responsible Care Activities of Mitsubishi Gas Chemical Company, Inc.

RC activities are voluntary work aimed at preserving the environment and ensuring safety and health in all stage of the life cycles of chemical substances from developing and manufacturing to distribution, use, final consumption and disposal, as well as conducting dialog and communication with the public starting with disclosing the results of these efforts.

In 1995, the Japan Responsible Care Council (JRCC) was established and at the same time RC activities were launched.

At MGC, we strongly recognized that maintaining the public trust was the critical issue for sustainable development of our sound business activities by the protection of environment and safety.

Therefore, we have made efforts with regard to the corporate compliance assurance in addition to those we launched the carryout our RC activities on a companywide basis with JRCC at its inception in recognition of the need for effectiveness.

Since then, we have begun full-scale activities through our declaration of commitment to implement RC in 1997 and they have continued up until now.

Furthermore, the MGC group, which has been organized by manufacturing affiliate companies, has also launched RC activities since 2006.

Summary of Responsible Care activities

The MGC's RC activities have been launched by implementation of fundamental policies on preservation of the environment and safety for the basis of all activities and extension of those policies to all employees.

We have emplaced zero accident, zero occupational injury and environmental preservation as our targets in our fundamental policies on preservation of environment and safety, and have specified nine fundamental policy items in order to put the above targets into practice.

Moreover, corporate compliance assurance was also specified as a fundamental element for all activities in the fundamental policies on environment and safety.

At each plant and work place in domestic, annual site own activity target has been established and carried out in order to put into achieve the fundamental policies on preservation of the environment and safety.

Annually, the status of activities at each site was audited by the director in charge of environment and safety, and the matters to be improved if any were pointed out at that

time.

At each site, the matters to be improved were verified and incorporated a next year's activity target.

By doing this, we definitely obtain an improvement of the status of activity in the continuously improving spiral of our Plan-Do-Check-Act (PDCA) cycle, annually.

Topics of Responsible Care activities

Unfortunately, a total of five accidents and three lost time injuries occurred though we aimed to achieve both zero accident and zero occupational injury in 2006.

Therefore, we have been making efforts to improve the results of safety through the implementation of the proactive HIYARI-HATTO (equivalent to near miss) submission activity by all employees, fulfilled occupational risk assessment activity, thorough risk reduction activities before starting non-routine work and reinforced safety management for facilities in 2007.

We have been aiming for additional reduction of the levels of substance targeted by the Pollutant Release and Transfer Register (PRTR) in 2007 compared to 19% reduction on a year-to-year basis in 2006.

Additionally we have been making sure to improve the energy consumption rate index and Greenhouse Gas (GHG) emission rate index through the strengthening of activities by the GHG task force after 2007, because of their lower performance in 2006 compared with the previous year.

As part of our countermeasures against the emission of waste, the final disposal amount for landfill was reduced by 56% over last year through our focus on zero emission activities.

MGC group's protection of the environment and safety conference has been inaugurated to support for the activity of affiliates in 2006.

Presently 14 affiliates chemical producing are participating, and every affiliate makes a presentation of its activities and the results of safety activities in biannual meeting for raising of their safety awareness.

This Responsible Care report covers our concrete Responsible Care activities described above, I sincerely hope that you will read this report and will deepen your understanding about and appreciation of our activities.

I welcome any suggestions and assistance you may offer on how we can continue to be a very trusted company and partner for you, just as we should continue to strive in our efforts to earn and maintain our social trust.

October, 2007



Environmental and Safety Management

We, Mitsubishi Gas Chemical Company, Inc. (MGC), are understanding activities to promote sustainable development and creation of a recycling-based-society as important business objectives, and are working on Responsible Care activity as a way of environment and safety management.

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.

MGC

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.

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

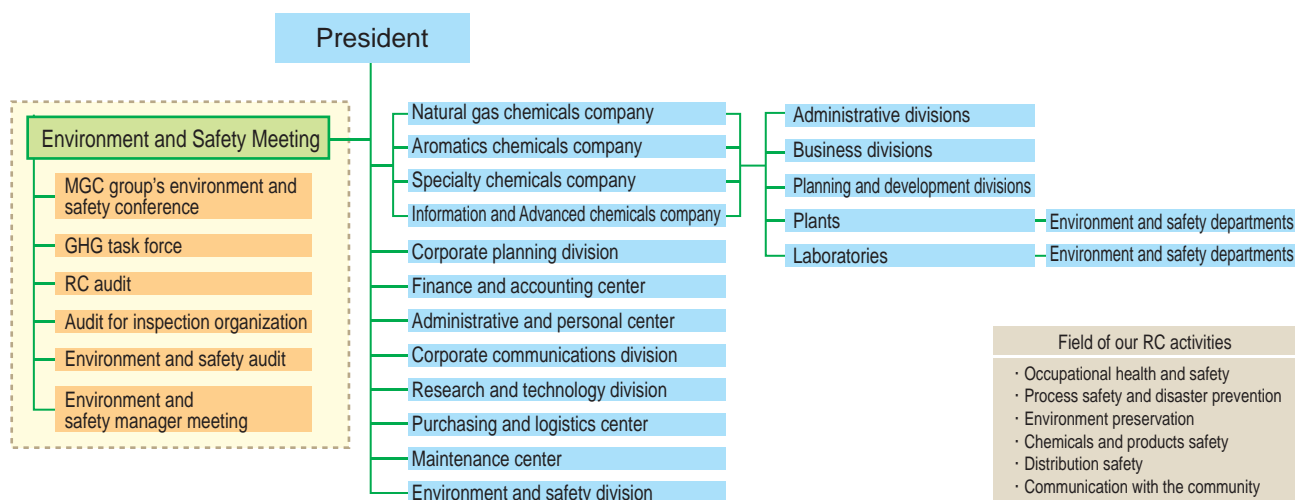
[Fundamental Policies]

- 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.



Responsible Care Promotion System



The Environment and Safety Meeting, which is chaired by the president and is consisted of whole our department head, is held as supreme legislative organization for RC activities in every December.

Subjects at the Environment and Safety Meeting

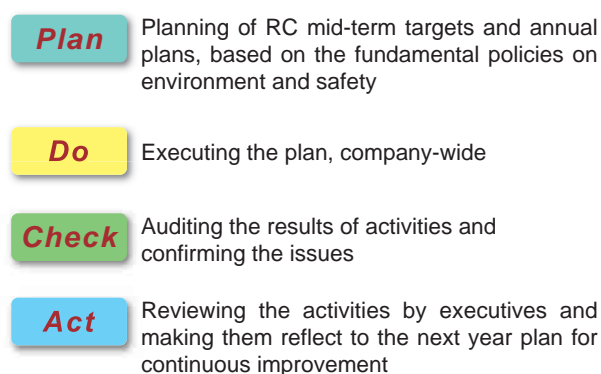
Discussion subjects

- Matters relating to environmental and safety targets and fundamental policies
- Matters relating to RC mid-term targets and annual plans
- Matters relating to rulemaking, revision or repeal of rules
- Matters relating to safety awards and award for effort to environment
- Other important RC matters

Reporting items

- RC activity status,
- Results of audits,
- Safety results including the situation of the occurrence of occupational injury or accidents,
- Other RC matters, etc.

PDCA cycle



Message from the Director in charge of environment and safety

Director, Senior Managing Executive Officer **Shoji Uematsu**



Nowadays, it is indispensable for the development of enterprise to steadily bear the obligations of the social responsibility and at the same time to ensure that it has obtained society's trust. Under the circumstances, the requirements are not only corporate compliance but also the sustainable improvement in all our Responsible Care activities and the fundamental basis is to prevent crisis involving hazard or risk through confidence-building activities of risk prediction and based on this the discovery of latent hazard or risk while taking appropriate measures to respond to them.

Securing the environmental preservation and safety, which have prevention as a keyword, should be carried forward by our executives with leadership and our employee by voluntarily participating in cooperative activities, and from that standpoint I believe that all of us assume some responsibility for all of our operations.



Targets and Results of Responsible Care Activities

	Fundamental policies	RC Mid-term targets (2006-2010)	Activity targets in 2006
Occupational health and safety	Ensuring of health and safety in our operations	To achieve zero occupational injury	To enhance occupational health and safety activity across the organization To evaluate safety of facilities and works by occupational safety risk assessment To support our contractors safety activity
Process safety and Disaster prevention	Securing security management of facilities and increasing self-maintenance technologies and skills	To achieve zero accident	To implement safety assessment based on the detailed regulation for prior safety evaluation procedures for plan of new or additional plants To review effective disaster prevention schemes among abutting affiliate companies To improve process safety management system at certified plants
Environmental preservation	Reducing environmental loads in business activities	To reduce energy consumption rate below 0.9 compared with 1990	To reduce 1% or more of energy consumption rate compared with previous year
		To reduce GHG emission consumption rate below 0.8 compared with 1990	To reduce 1% or more of GHG emission consumption rate compared with previous year
		To reduce 10% release of chemicals listed in PRTR compared with 2004	To reduce amount of PRTR chemicals release (achieved targets)
		To reduce 10% release of VOC compared with 2004	To reduce amount of VOC release (achieved targets)
		To achieve zero emission of waste	To achieve zero emission of waste To promote green procurement (office and stationery supplies)
Chemicals and products safety	Ensuring safety in use, handling and disposal of products Developing of environment-friendly and safety-conscious products and technologies	To promote development of environment-friendly products and energy saving technologies To implement safety assessment of products To participate in Japan Challenge program To harmonize with REACH To assess new substances appropriately To provide latest MSDS (includes GHS harmonization)	To harmonize with related legal amendment quickly To utilize the latest MSDS To participate in Japan Challenge Program To understand and to evaluate our R&D from a view point of environment, safety and energy saving
Distribution safety	Ensuring environmental preservation and safety in the logistics for obtaining raw materials and storing and delivering our products	To reduce any environmental loads in logistics To ensure the safety in logistics To harmonize with the GHS	To harmonize with related legal amendment quickly To audit our logistic companies To count CO ₂ emission in logistics To set CO ₂ emission reduction target To promote modal shift and improve efficiency of distribution systems
Dialogue with the community	Enhancing of society's confidence to us	(To promote annual targets)	To publish Environmental Report 2005 To publish Environmental site Report To participate in JRCC dialogue meeting and industry segment activities To participate in activities and events in local communities
Spectrum of RC	To provide support to our subsidiaries and affiliates in implementing their own RC activities	To support their introduction of RC activity To audit for any affiliates in Japan and overseas	To enact MGC group environment and safety fundamental policies To develop annual environment, safety and health target based on the group fundamental policies To audit for any affiliates in Japan and overseas
	Continuously improving our RC management system	(To promote annual targets)	To review RC education and training curriculum To implement RC education and training To review our regulations and rules

Estimation Remarks

Achievement of targets :



Necessity of more efforts :



No activity :



Results and status of activities	Estimation	Relevant page
<ul style="list-style-type: none"> Hiyari-Hatto suggestion numbers are increasing, and operational visualization for the reduction of Hiyari-Hatto has been proceeded. The problem to be improved is the participation rate of employee. We are working on a full-scale occupational risk assessment. We supported our contractors' safety activity by mutual participation in safety and health committee. 		11 12
<ul style="list-style-type: none"> We implemented the safety assessment based on the detailed regulation or site rules. Our process safety and disaster prevention regulations were revised for reviewing disaster prevention system. Disaster prevention training with abutting affiliates was drilled. In certified plant on high-pressure gas, maintenance management system was developed and reviewed to correspond with amended regulations. In certified plant on boilers and 1st class vessels, staff gained knowledge such as aged deterioration provision by workshop for license renewal. 		13 14
<ul style="list-style-type: none"> In fiscal 2006, energy consumption rate increased by 2% compared with previous year due to decreased production by equipment trouble. In fiscal 2007, the rate is expected to be improved. 		19 21 22 23 24 26
<ul style="list-style-type: none"> In fiscal 2006, GHG emission consumption rate increased by 4% compared with previous year, because of equipment trouble. In fiscal 2007, the rate the rate is expected to be improved. 		
<ul style="list-style-type: none"> In fiscal 2006, amount of PRTR chemicals emission increased by 9% compared with fiscal 2004, because the amount of acetone and n-hexane increased despite of reduction of dichloromethane (19% decreased) and xylene (17% decreased) . 		
<ul style="list-style-type: none"> In fiscal 2006, amount of VOC, which are PRTR substances as described above, release increased by 12% compared with fiscal 2004. 		
<ul style="list-style-type: none"> The volume zero of final disposal was achieved at the three plants. Generated waste, waste to be transferred to off-site and final disposal in fiscal 2006 were decreased by 29%, 28%and 43% respectively compared with previous year. All workplace promote the green procurement by wider variety of goods. 		
<ul style="list-style-type: none"> All covered products by Industrial Safety and Health Law were labeled with GHS slip on container or package. Revised MSDS has been distributed to customers for effective utilization. Japan Challenge Program substances are planed to gather data on their safety and testing has been started. We proclaim the environment-oriented harmonization with sustainable society as our R&D policy, and we are promoting R&D from the view point of ecology, safety and energy saving. 		15 16 17 18
<ul style="list-style-type: none"> Container or package with GHS label based on the Industrial Safety and Health Law have been distributed from December 2006 for the object products of the law. Main contractor of logistic companies was audited by our auditor. For counting CO₂ emission in logistics, we introduced the new counting system and tallied up the performance for 2006. The target of CO₂ emission reduction in 2007 is 1% reduction by unit consumption rate compared with performance in 2006, which is considered as benchmark. We have carried out modal shift and improved the efficiency of distribution systems from the possible ones. 		16 22
<ul style="list-style-type: none"> Our environmental report has been published every year and disclosed on our website. Two site environmental reports have been published. 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. 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 the volunteer activities for cleaning and beautification, the firefighting training and the festivals in local communities. 		27 28
<ul style="list-style-type: none"> MGC group's companies planed and implemented each annual environment, safety and health target based on environment and safety fundamental policies. MGC group's environmental and safety conference draw up the rules of a conference for promoting activity. We carried out the RC audit to our 3 domestics and 2 overseas subsidiaries and affiliates. 		29 30 31 32
<ul style="list-style-type: none"> RC education and training curriculums were reviewed and RC education textbook was prepared. Each workplace has RC education and training, disaster prevention training and emergency drill. Integrated Safety Management System Rule and related regulation were reviewed and revised. 		14



Responsible Care Audit

Our Responsible Care audit system is consisted of the RC pre-audit on the basis of checking documents and records and the RC audit in a comprehensive way by the director in charge of environment and safety, and auditors evaluate both the progress in RC activity plan and the efforts to spectrum of RC at each workplace. In addition, they also evaluate whether or not PDCA cycle on the security management system is surely implemented at the plants that are certified to carry out the self inspection and/or to operate the facilities continuously on the basis of the certification of high pressure gas and/or boilers and 1st class pressure vessels. The RC audit results are notified to the Environment and Safety Meeting and incorporated into our next year activity target.

RC auditing in 2006

- ◎ Auditing period: From August to October in 2006
- ◎ Auditee: 6 plants(including Tokyo research laboratory), 3 laboratories, and 4 internal companies and 1 corporate at Headquarters
- ◎ Pre-auditing items
 - Security management status regarding certification of high pressure gas (only at certified plants)
 - Security management status regarding certification of boilers and 1st class pressure vessels (only at certified plants)
 - Priority auditing subjects in 2006
 - Standard checking list by JRCC
- ◎ Auditing items
 - Progress in RC activity plan and status of security management activity
 - Performance date on environment and safety
 - Results of internal RC audit
 - Follow-up of pointed out subjects in previous year's auditing
 - Response to the requirement to accident preservation and thorough compliance
 - Other subjects related to environmental preservation and safety
- ◎ Auditing results: Good point (13 cases)
Nonconformity (0 case)
Matters to be improved (10 cases)
Comment with advice (42 cases)
- ◎ Follow-up of pointed out subjects in previous year's auditing

The auditors confirmed the appropriate countermeasures on pointed out subjects in previous year's auditing while pre-auditing and RC auditing.

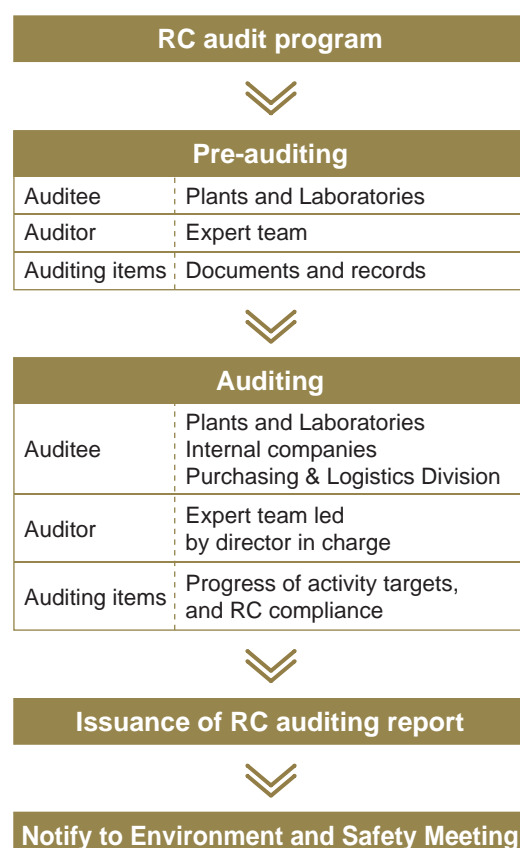


RC pre-audit



RC audit

RC auditing system



■ Matters to be improved in common with all workplaces

We confirmed the matters to be improved in common with all workplaces by spreading out the auditing results of each workplace at the Environment and Safety Meeting.

Matters to be improved in common with all workplaces in 2006 RC audits

To be improved 1	Countermeasure on accident/occupational injury should be reviewed not only on ostensible factor but also on background factor and taken preventive steps should be taken.
To be improved 2	Disaster prevention training has to include crisis management such as communication with outside.
To be improved 3	Education curriculums should be devised so as to be effective for the increase of employee's sensibility to risk, for example to determine of their comprehension.



Responsible Care Activities

Targets in 2007

We have been working on the Responsible Care activities targets in 2007 which were determined at the Environment and Safety Meeting in December, 2006 toward the achievement of our Responsible Care mid-term targets from 2006 to 2010.

Occupational health and safety	Mid-term target	<ul style="list-style-type: none"> To achieve Zero occupational injury
	Targets in 2007	<ul style="list-style-type: none"> For eliminating our human error <ul style="list-style-type: none"> To activate our suggestion activities on Hiyari-Hatto (near miss) across the employees To review the educational methods for improvement of employees' sensibility to risk To enhance the occupational safety and health risk assessment activity To make sure the risk reduction activity before starting a non-routine work
Process safety and disaster prevention	Mid-term target	<ul style="list-style-type: none"> To achieve Zero accident
	Targets in 2007	<ul style="list-style-type: none"> To reinforce the safety management for facilities without authorized inspection under any law To enforce the management for any changing in process and verify the effectiveness of it To review the crisis management system in case of an accident
Environmental Preservation	Mid-term target	<ul style="list-style-type: none"> To reduce an energy consumption rate below 0.9 in compare with fiscal 1990 To reduce a GHG emission rate below 0.8 in compare with fiscal 1990 To reduce an amount of PRTR chemicals emissions equal to 90% of fiscal 2004 To reduce an amount of VOC emissions equal to 90% of fiscal 2004 To achieve zero emission of wastes (Definition: To promote 3Rs and to reduce an amount of final disposal as landfill below 0.3% of generated wastes)
	Targets in 2007	<ul style="list-style-type: none"> To promote a countermeasure for energy saving with a focus on major plants and to reduce an energy consumption rate more than 1% in compare with the previous year To promote energy saving and a fuel conversion to natural gas and to reduce a GHG gas more than 1% in compare with the previous year To reduce an amount of PRTR chemicals emissions more than 2% in compare with fiscal 2004 To reduce an amount of VOC emissions more than 2% in compare with fiscal 2004 To approach our zero emission of wastes through setting the target values on the ratio of zero emission or the reduction amount of final disposal at every workplace To promote our green procurement (office and stationery supplies)
Chemicals and product safety	Mid-term target	<ul style="list-style-type: none"> To provide the latest MSDS (including the harmonization with GHS) To implement safety assessment of products <ul style="list-style-type: none"> Participation in the Japan Challenge Program Harmonization with REACH regulation Pertinent assessment of new substances To promote the development environment-friendly products and energy saving technologies
	Targets in 2007	<ul style="list-style-type: none"> To review and provide the MSDS based on latest safety information To harmonize with amendment of Industrial Safety and Health Law (GHS) To research and verify a substance contained in our product To implement the Japan Challenge Program To plan the appropriate countermeasure to REACH To review our flow of newly-developed product safety assessment To promote the development environment-friendly products and energy saving technologies
Distribution safety	Mid-term target	<ul style="list-style-type: none"> To introduce the globally-harmonized system (GHS) To ensure the safety in our logistics To reduce the environmental loads in our logistics
	Targets in 2007	<ul style="list-style-type: none"> To verify the GHS labeling To enhance our auditing for delivery consignment companies To analyze a trouble in logistics and promote a preventative measure To analyze an amount of CO₂ emission in our distribution and plan reduction scheme of it To promote our modal shift



Approach to Occupational Health and Safety

Occupational safety activities

MGC has actively worked for RC activities under our original goal of Zero accident, Zero occupational injury and Environmental Preservation as our environmental and safety targets.

In order to accomplish the original goal, every workplace has promoted various occupational safety activities through the daily safety activity such as Hiyari-Hatto(near miss) suggestion activity, 5S-activity and risk reduction activity, education and training, and collection of safety slogans.

In the safety week across the country in every July, the safety message from the president is disseminated to all employees on our intranet-website and video, and the employees furthermore confirm the importance to ensure the safety through the lecture of the top management of each workplace at safety meeting.

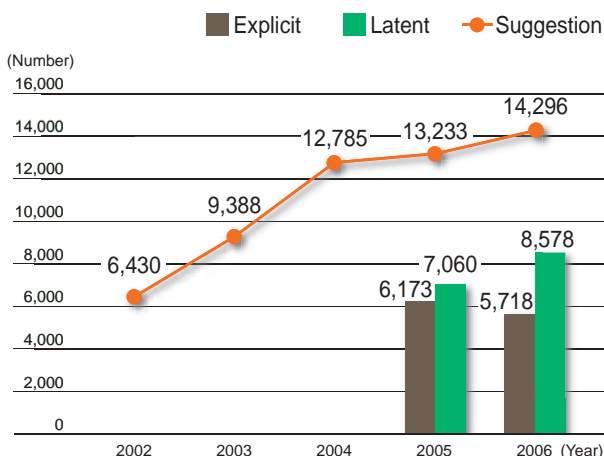


5S-activity situation
(The Kashima plant)



Pointing and vocalizing training
in tool box meeting
(The Niigata plant)

Transition of Hiyari-Hatto suggestion



In our Hiyari-Hatto activity, numbers of suggestion on Hiyari-Hatto consisting of explicit one and latent one have been positioned as the indicator for both improvement of sensibility and activation level of RC activities, and we have promoted the suggestion on Hiyari-Hatto.

The numbers of suggestion on Hiyari-Hatto are increasing year by year, particularly the ratio of latent Hiyari-Hatto is increasing.

The operational visualization, such as the release of the suggestion contents on workplace website, has been proceeded.

MGC is hereafter going to enhance furthermore the participation rate of employee on this activity.

Results of safety activities

Unfortunately three lost time injuries occurred in 2006, though our record of lost time injury had kept decreasing until then.

In the results, our frequency rate on occupational injury, which is the number of employees with lost time injuries per one million working hours, was 0.92 and our severity rate, which is lost days per one thousand working hours, was 0.20. It became our worst record in a several years.

Most our occupational injuries were caused by lack of sensibility for latent risk in a work.

We should improve our sensibility through the above Hiyari-Hatto suggestion activity and risk reduction activity before stating a non-routine work.



Presentation for environment and safety
at the Niigata plant

Frequency rates

	2002	2003	2004	2005	2006
MGC	1.02	0.53	0.28	0.29	0.92
Chemical industries	0.83	0.92	0.88	0.90	0.88
Manufacturing industries	0.98	0.98	0.99	1.01	1.02

Severity rates

	2002	2003	2004	2005	2006
MGC	0.02	0.02	0.001	0.001	0.20
Chemical industries	0.07	0.07	0.06	0.07	0.10
Manufacturing industries	0.12	0.11	0.11	0.09	0.11

Occupational safety risk assessment

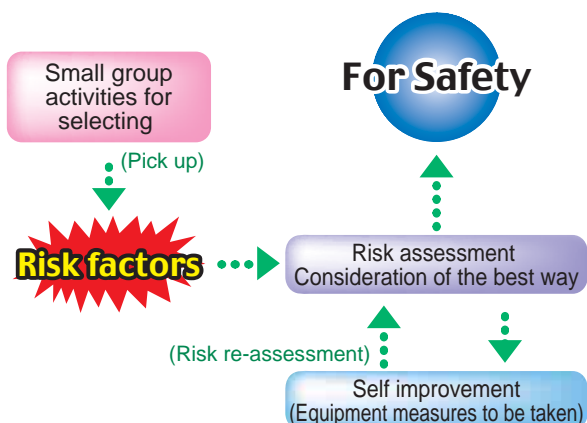
Aiming for raising our level of occupational safety and health, our occupational safety risk assessment was introduced in last year and we are working on a full-scale activity in this year.

The occupational safety risk assessment is used for event analysis in Hiyari-Hatto suggestion, and the occupational safety risk assessment meeting in a sector is held regularly for picking up and improvement of the unsafe point in worksite. Several workplaces hold the meeting to make a presentation of the assessment results for supporting the activation of our occupational safety risk assessment activity.



Presentation of Risk assessment for occupational safety
(The Kashima plant)

■ Our occupational safety risk assessment



Comment by Representative at plant

The Yamakita Plant
Environment and safety
department manager
Fumihiko Naito



The Yamakita Plant manager has announced his clearest policy of occupational health and safety to employees, because the safety is his decisiveness. At the same time, Hiyari-Hatto activity and companywide development of instance accident and occupational injury are considered as important activities by employees. We cultivate the sensibility for hazard by "Learn from mistake", and we will make efforts to promote secure safety activities together.

Presentation of safety activity

Tokyo Techno-Center received the performance award of Director-general of Tokyo Labor Department at the Tokyo-industrial Health and Safety Convention in 2005 for continuous record of "4.6 million hrs" of Zero occupational injury and introduction of Occupational Health and Safety Management System, and the Center made a presentation of their safety activity at the same convention held in July, 2006.



Presentation at Tokyo-industrial health and safety convention

Effort to emergency aid

Automated external defibrillators (AEDs) can be recently found at station, public facility and other places and they are used in case of cardiac arrest in recent days. In MGC, 5 workplaces have AEDs and staffs are trained to use it.

In addition, for effort to emergency aid, manual resuscitator has been equipped and employee has training for first aid at each workplace.



AED information panel at the Yokkaichi plant



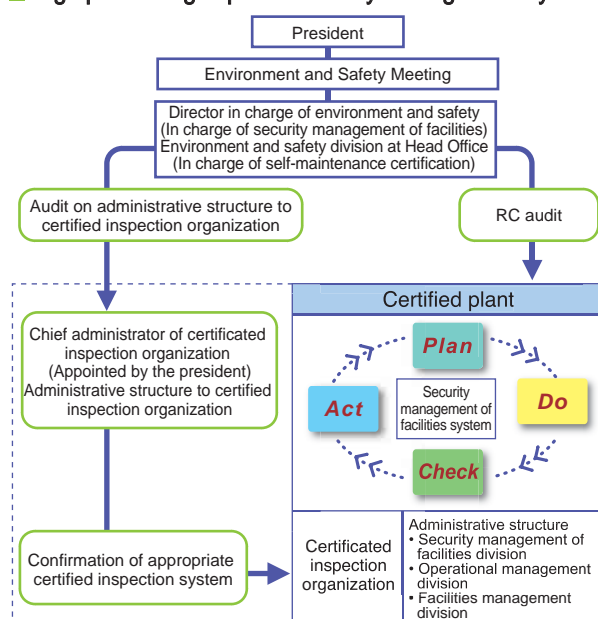
Approach to Process Safety and Disaster Prevention

MGC has determined the securing of safety as a top priority issue and we proactively address the employee to secure safety to achieve Zero accident and Zero occupational injury, through the promotion of self-maintenance based on RC activities. Furthermore, we have constructed our disaster prevention system in case of an accident.

Process safety management

As part of RC auditing in each workplace every year, we implement the auditing of process safety. Especially the certified plants, which have acquired approved qualification on high pressure gas production facility, have the auditing for their inspection organization by Director in charge of environment and safety, based on the Certified Process Safety Management Regulation on High Pressure Gas. In this auditing, each inspection organization of the certified plants was confirmed by third party whether its process safety management is correct or not according to the standard specified by Minister of Economy, Trade and Industry. On the auditing in 2006, it was confirmed that a part of the inspection for process safety was not implemented at both plants. This was reported to regulatory authorities, and both plants took collective and preventive actions.

High pressure gas process safety management system



In 2006, a total of 5 accidents happened in MGC. Particularly, the Niigata and Mizushima plants had the extraordinary environment and process safety auditing based on the Integrated Safety Management Rules, because both plants caused several accidents and/or occupational injuries continuously.

Promotion of self-security management

The Niigata plant, which has acquired approved qualification on high pressure gas production facility,

had developed and revised its own process safety management system according to the revised High Pressure Safety Act and related rules in 2005.

And also the Mizushima plant has been developing the similar process safety management system.

The Yokkaichi plant, which has acquired approved qualification on continuous operation of boilers and 1st class pressure vessel, has renewed license and the facility staff in the Kashima plant tried hard to gain knowledge on aged deterioration provision and etc. by workshop on high pressure gas facility for our promoting self-security management.

The security of safety activities for facilities

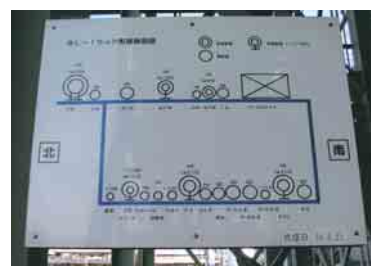
In order to prevent an accident and an occupational injury, it is important to ensure process safety and facility's good condition and to continue stable operation.

The each plant is actively making efforts on process safety management activity proactively, for example, it has put safety assessment in execution according to the enacted detailed regulation for prior safety evaluation for the plan of new or additional plants in 2005 and/or related original rules of each site.

MGC is promoting the operational visualization of facilities, exemplified by the improvement of a piping rack labeling.

Main activities security of safety for facilities in each plant

Niigata plant	Reviewing the point to be checked and cycle at facilities To pick up the weak point of each section by checklist and take the countermeasure for it Thoroughness of operational visualization
Mizushima plant	Development of the site original process safety management rule on high pressure gas To review the earthquake countermeasures at toxic gas facilities
Yokkaichi plant	To evaluate safety assessment based on rules To pick up the risk at facilities based on rules
Kashima plant	To evaluate safety assessment based on rules To pick up the risk at facilities based on rules
Yamakita plant	To implement the prior safety evaluation for the plan of new or additional plants To carry out the safety patrol before new facility's operation



"Operational visualization" on piping rack
(The Mizushima plant)

Emergency management

We have constructed the self-disaster prevention system at each workplace in case of an accident. Each workplace has set up their disaster prevention activity rule which has defined emergency system and activity. Furthermore, the Niigata, Mizushima, Yokkaichi and Kashima plant, to which the Petroleum Complex Accident Prevention Act has been applied, have entered into the regional joint accident prevention agreement with neighboring companies and constructed a mutual support system with them in case of an emergency. Each workplace develops its annual disaster prevention plan and implements the periodical training for disaster prevention.

Each plant has equipped with materials and equipment for emergency in case of an accident in transportation of our products. We have constructed our wide-area support system for emergency measure by getting in touch with each other plant, whenever an accident happens. As the result of equipping with materials and equipment for emergency, we help the cooperating with the fire station and police station on the accident happening at the neighbor of plant in transportation of other company's products, if required.



Emergency call procedure on phone
(The Niigata plant)



Joint firefighting training with fire station
(The Tokyo techno-center)



Firefighting training
(The Niigata laboratory)



Integrated disaster prevention training
(The Kashima plant)



Disaster prevention training
(The Hiratsuka laboratory)



Assistance the leakage accident
(The Yamakita plant)

Educational and supporting activity

It is very important for safe and reliable operations to hand down technology and skill. Therefore, each plant has handed down through training programs the technology and skill by using the skill table and the one point lesson sheet, and besides, implemented the acquisition fundamental technology and skill for maintenance, instrumentation and operation. The affiliate companies have attended above-mentioned training programs for upgrading their operation technology, skill and safety.

In addition, we have improved our sensibility and understanding for safety through the simulation and renewed recognition of troubles happening in the past.



Education at the value productive maintenance center
(The Yokkaichi plant)



Training at the in-house maintenance school
(The Mizushima plant)

Comment by Representative at plant

The Niigata plant
Environment and Safety
Department Manager

Takashi Kojima



For eradication of accident and occupational injury, we work on various activities such as risk reduction activity, eradication of equipment and instrument trouble, improvement of on-site ability by practical use of employee skill table, strengthening of equipment self-management etc., in combination with operational visualization. These activities are firmly established through ideas and improvement of employees at each section, and this "culture" is expected to be performed as a matter of fact by all employees' participation.



Approach to Chemicals and Products Safety Management

As a chemicals supplier's responsibility, we clarify the characteristics, safeness and handling method of our products and carry out various kinds of activities to keep safety, health and environment of every user of our products.

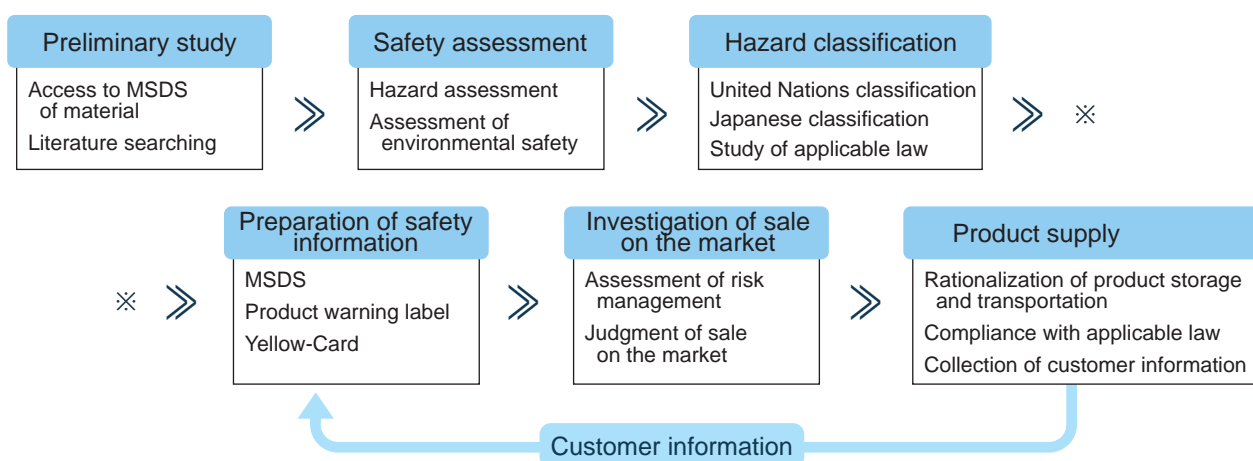
We have managed our system to secure the product safety under our enacted products safety assessment standard.

This system is the one for the examination of products whether they are satisfied with the standard for their commercialization, through the implementation of assessment, classification and evaluation of the hazard and risk in each development stage from the preliminary study of raw

materials to the disposal of products via the sale on the market.

Additionally in this system, recommended appropriate handling method of products is decided on the basis of hazard information and it is reflected in Material Safety Data Sheet (MSDS), warning label and Yellow-Card (emergency information card during distribution) which are furnished to customers of products.

■ Flowchart of safety assessment for chemicals and products



Safety assessment of chemicals

MGC obtains any necessary safety information from not only literature searching but also testing in our research laboratories and utilizes it for the evaluation of chemicals safety.

Especially, the Niigata research laboratory has the certified biodegradability and mutagenic (Ames) tests facilities in accordance with GLP*.

We have conducted several safety tests for new chemicals, especially biodegradability and mutagenic (Ames) tests specified by laws and

regulations at our GLP certified test facilities in the Niigata Research Laboratory.

In addition, this Laboratory owns the test facilities for acute oral toxicity, primary skin irritation and pathogenicity, and these safety tests on 52 chemicals were conducted at this laboratory in 2006.

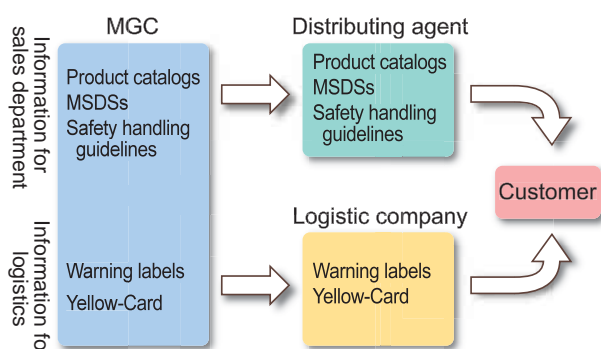
*Good Laboratory Practice (GLP) is a quality system concerned with the organizational process and the conditions under which non-clinical health and environmental safety studies are planned, performed, monitored, recorded, archived and reported.



Mutagenic (Ames) tests (from left Agar media, testing and electronic colony counting)

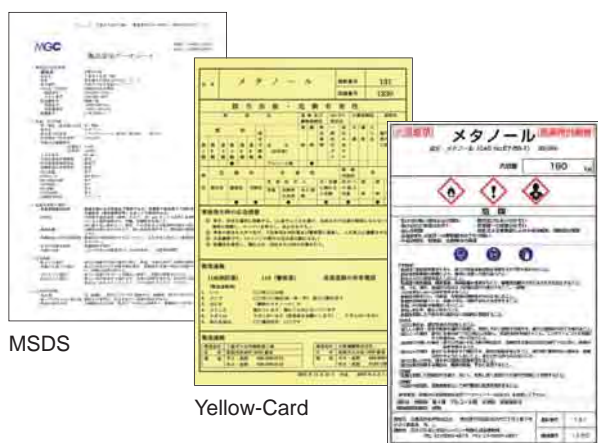
MGC actively collects the safety information relating to our products. Based on the collected information, we prepare the product catalogs, MSDSs, safety handling guidelines, Yellow-Cards and warning labels in accordance with GHS.

■ Flowchart of the safety information service



Container and packaging label

We have secured the product safety by labeling with hazardous information, risk aversion pictogram and handling caution on the container or package of hazardous product. In December, 2006, the Industrial Safety and Health Law was amended and it requires us to make the classification and labeling of chemicals on the basis of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Pursuant to the amended law, we changed the classification and label of listed products by the law so as to harmonize with GHS specifications, although the quality of our products does not change.



Label harmonized with GHS

Study and research of chemical safety

■ Japan Challenge Program

The Japan Challenge Program is the combined governmental and industrial program for both gathering of existing chemical safety information with increasing speed and disseminating of that information to Japanese people.

MGC is participating into 4 substances whose production volume is large. By this time, the gathering plan of safety information for each substance has been made and the safety test has been launched.

Participation substances in the Japan Challenge Program

- 3-cyclohexanedimethanamine (submit to OECD)
- 3,4-dimethylbenzaldehyde
- Cyclohexyl methacrylate (in consortium)
- Benzene-1,2:4,5-tetracarboxylic dianhydride (in consortium)

■ OECD HPV Program

The OECD HPV program is the safety evaluation program concerning the chemical substances whose annual production volume in one country is not less than 1,000 tons (high production volume). MGC has been participating in this program through the Japan Chemical Industry Association (JCIA) and/or International Council of Chemical Association (ICCA) since 1999.

Among 17 substances in which we are taking part, we have already evaluated the 13 substances (including of our leading 3 substances) through the Organization for Economic Co-operation and Development (OECD).

Additionally MGC is supporting the Long-Range Research Initiative (LRI) concerning the impact of chemicals on health and the environment by ICCA, via JCIA.

Overseas regulation REACH

The new chemical control regulation in EU, which is known as REACH, entered into force in June, 2007. MGC is participating in the Japan Chemical Council in Europe and Japan for REACH and making an effort to harmonize with international regulatory trend.



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.

Our environment-friendly products and/or technologies

	Products or technologies	Contribution to environmental preservation	Targets*		
			A	B	C
Plastics	MX nylon resin	Non chlorinated resin with high gas barrier capability	●	●	
	lupilon® (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	●		
	lupital® (Polyacetal resin)	Resin with excellent mechanical properties and used as the substitute for metals in various purposes	●	●	
	luplace® (Modified polyphenylene ether)	Resin mainly used for office automation equipment, contributing to the energy saving for its light weight property	●		
	Al polymer® (Polyamideimide)	Resin for thin outer housing of smaller and lighter office automation equipment on the basis of excellent heat resistance		●	
Treatment of waste water	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	●	●	
Keep quality and freshness	DEOPOWER®	Deodorant agent to solve the issue of bad odor at sewage-treatment plant, etc.		●	
	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 preservation 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 peroxide	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	Printed circuit board with Brominated flame retardants free		●	
	Persulfates	Purgation of polluted underground water and soil		●	
	Method for manufacturing of Aromatic aldehydes	Printed circuit board with Brominated flame retardants free		●	●
	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		●	

*) Targets of MGC products and/or technologies contributive to environmental preservation

mark A : Energy saving and/or resource saving : Contributive to resource saving such as energy saving, reduction of water consumption, reduction of raw materials, etc. and the reduction of emission of carbon dioxide

mark B : Low environmental load : Contributive to the removal of harmful materials through the reduction of consumption of chemical materials, their reduction of emission and generation, water treatment and emission gas treatment.

mark C : Reduction of wastes : Contributive to the reduction of waste materials through the prevention of generation of wastes, their recovery and their recycle.

Environment-friendly Products

Plastics



Reny®
(Side mirror stay)



Lupilon®
(Headlight, Tail-light)



MX nylon
Soda bottle

For keep quality and freshness

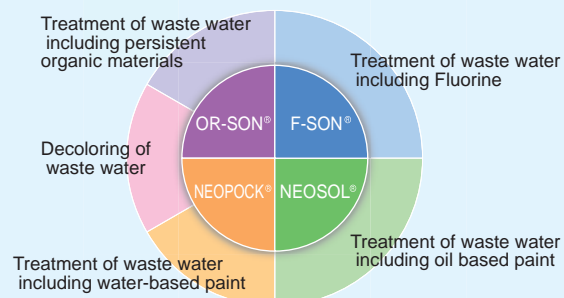


Items using oxygen absorber film AGELESS OMAC®



Items using RP preservation system®

Environmental chemicals



Diafresh® series

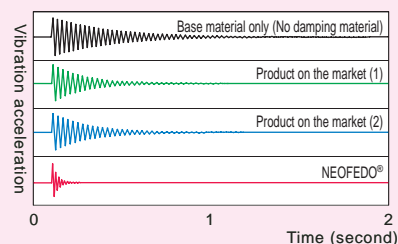
Technologies and others



Methanol fuel cell



DME fuel autotruck



above : NEOFEDO®
bottom : Vibration-damping properties



Environmental Load in Our Business Activities

The overview of our environmental load status in fiscal 2006 is as 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.

MGC business activities
8 production sites

INPUT	Unit	2005 FY	2006 FY	FY-to-FY
Energy consumption (as crude oil)	kl	570,000	563,000	0.99
Water consumption	km ³	40,284	42,389	1.05
Break down	Tap water	km ³	443	0.75
	Industrial water	km ³	23,418	1.00
	River water	km ³	16,918	1.15

OUTPUT	Unit	2005 FY	2006 FY	FY-to-FY
Emission to Atmosphere				
GHG gases emission CO ₂ conversion	k ton	1,591	1,580	0.99
SO _x emission	ton	410	412	1.01
NO _x emission	ton	906	921	1.02
Soot and dust emissions	ton	42	50	1.19
Releases of PRTR listed chemicals	ton	316	254	0.80
Release to water area				
Drainage volume	km ³	34,572	35,387	1.02
COD emission	ton	269	289	1.07
Total nitrogen emission	ton	414	353	0.85
Total phosphorus emission	ton	73	74	1.01
Releases of PRTR listed chemicals	ton	30	25	0.83
Release to soil	ton	0	0	
Generation of waste				
Transfer to off-site	ton	11,042	7,896	0.72
Final disposal waste for landfill	ton	516	293	0.57

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
GHG gases emission	Total emission volumes of 6 Green House Gases in our business activities converted in terms of CO ₂
SO _x emission	Total emission volumes of SO _x contained in exhaust gas from our utility facilities
NO _x emission	Total emission volumes of NO _x contained in exhaust gas from our utility facilities
Soot and dust emissions	Total emission volumes of soot and others contained in exhaust gas from our utility facilities
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	Volumes obtained with multiplying our drainage volumes by COD concentration in our drainage
Total nitrogen emission	Volumes obtained with multiplying volumes of our drainage by nitrogen concentration in our drainage
Total phosphorus emission	Volumes obtained with multiplying volumes of our drainage by phosphorus concentration in our drainage
Releases of PRTR listed chemicals	Drainage volumes of the listed chemicals to the public water area
Transfer to off-site	Volume of waste transferred to off-site for external treatment
Final disposal waste for landfill	Amount of final disposal for landfill after off-site 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

■ Amount of investment

Amount of investment is equivalent to amount of established facilities for environmental preservation. In fiscal 2006, the global environmental preservation cost for controlling global warming was 548 million yen and came to approximately 42% of total amount of cost. This is the result of investment in fuel conversion to natural gas for reducing the carbon dioxide at the Mizushima and Yamakita plants.

■ Amount of cost

Amount of cost is equivalent to amount of running and maintenance cost for facilities or personnel cost due to research and development for environment-friendly products. In fiscal 2006, the water pollution prevention cost was 1,853 million yen, and came to approximately 26% of total amount of cost. In addition, the research and development cost was 1,305 million yen, and came to approximately 19% of total amount of cost.

Environmental preservation cost in FY 2006

Break down			Main items for activity		Investment million ¥ Amount		Cost million ¥ Amount	
						Ratio		Ratio
Onsite cost	Pollution prevention cost	Air pollution prevention	Invest.	Incinerator, etc	305	23.6		
			Cost	Off gas scrubber, etc			725	10.3
	Water pollution prevention	Invest.	Facility making drainage harmless, and etc.	205	15.9			
		Cost	Wastewater treatment facility maintenance			1,853	26.3	
	Noise prevention, etc.	Invest.	Acoustical technology at power plant	25	1.9			
		Cost	Sound proof wall maintenance			11	0.1	
	Global environmental preservation cost	Invest.	fuel conversion to natural gas for boiler	548	42.4			
		Cost	Running and maintenance cost for power plant			1,436	20.3	
	Resource recycling cost	Invest.	Established the warehouse for PCB	29	2.3			
		Cost	Treatment of recycle			887	12.6	
Up or down stream cost			Invest.	IModal shift	7	0.6		
			Cost	Management charge for recycle			55	0.8
Management activity cost			Invest.	Established and preserved green space	14	1.1		
			Cost	Maintenance fee of environmental management			631	8.9
R & D cost			Invest.	development for environment-friendly products	158	12.2		
			Cost				1,305	18.5
Social contribution cost			Invest.		0	0.0		
			Cost	Supporting a local community			8	0.1
Environmental damage cost			Invest.		0	0.0		
			Cost	Compensation for environmental preservation			147	2.1
			Total		1,293	100.0	7,057	100.0

Implementation in conformity with the Environmental Accounting Guidelines 2005

Targeted period : From April 1, 2006 to March 31, 2007

Scope : Unconsolidated basis

Counting methods : Investment : The amounts, associated with environmental preservation, are prorated from its ratio in capital spending during this fiscal year.

Cost : The amounts are associated specifically with environmental preservation, and the depreciation of machinery and equipment is included.

Effect of environmental preservation activity

■ Environmental Preservation Effect

The release of the PRTR listed chemicals to atmosphere and water area was decreased compared with previous fiscal year. Furthermore, the amount of waste to be transferred to off-site, final disposal waste for landfill and used drinking water amount were also reduced. And other performance remained the same as the previous fiscal year. For additional information, details of actual values are summarized in the environmental load status in the previous page. Meanwhile, the

reason why amount of generated waste was reduced is that the coal ash was not generated by fuel conversion from coal to natural gas.

■ Economic benefit

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

The economic benefit

Title	Item	Amount (Unit: million ¥)
Income	The profit on sale of valuable waste	105
Cost saving	The effect by energy saving	203



Approach to global warming preservation

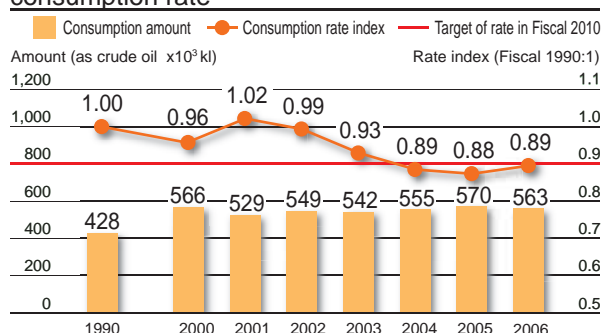
MGC, in particular manufacturing section, is working on the following Mid-term targets against global warming issue. The performance was as follows in fiscal 2006.

Energy consumption rate : 0.89 compared with 1990 (Target: To reduce below 0.9 compared with 1990)

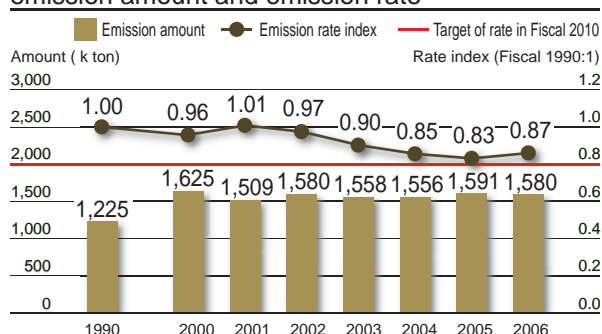
Greenhouse gas emission rate : 0.87 compared with 1990 (Target: To reduce below 0.8 compared with 1990)

In distributor section, the amount of CO₂ emission was calculated and the approach to global warming preservation has advanced while obtaining the cooperation of delivery companies.

Transition of energy consumption amount and consumption rate

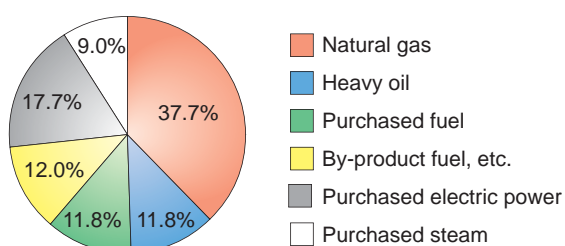


Transition of Greenhouse gas (GHG) emission amount and emission rate



Details of GHG emission amount (converted to k tons-CO ₂)	
CO ₂ (energy origin)	1,267
CO ₂ (non-energy origin)	306
Methane	1.7
Dinitrogen oxide	1.1
Hydrofluorocarbons	4.2
Perfluorocarbons	0.0
Sulfur hexafluoride	0.0
Total	1,580

■ Component ratio of energy sources (fiscal 2006)



In this report, the coefficient of purchased steam was modified as far back as past.

Energy saving activity

The amount of the energy consumption in fiscal 2006 on the basis of crude oil was 563,000 kl in manufacturing sections, and it had decreased by 1.2% compared with the previous fiscal year. However, the energy consumption rate was increased by 2% compared with the previous fiscal year and it was 0.89 compared with 1990. The effect of energy saving was 5,200kl converted in terms of crude oil through the following measures as the energy saving activity in fiscal 2006. But unfortunately, energy consumption rate became worse by the decreased operating rate due to facility troubles.

A few examples of energy saving measures in fiscal 2006

- Steam saving by optimization of operating conditions in distillation tower
- Recovery and reuse of low pressure steam
- Renewal of adequate capacity of cooling water pump
- Efficient use of low pressure steam by the introduction of steam jet compressor
- Energy saving by optimization of operating conditions in boiler

MGC will put the energy consumption into efficient use through the promoting energy saving measures and stable operating of plant.

Countermeasures for reduction of Greenhouse Gas (GHG) emission

In fiscal 2006, the amount of Greenhouse Gas (GHG) emission was 1,580 k tons in manufacturing sections and this means 0.6% decrease compared with the previous fiscal year.

In the breakdown, the amount of CO₂ originated from energy generation and production process was 99% of the whole, and the amount of other five kinds of greenhouse gas emission was small. The GHG emission rate had been become worse by 4% compared with the previous fiscal year and it was 0.87 compared with 1990.

As well as the energy consumption rate, the decreased emission rate resulted from facility troubles.

Utilization of clean energy

MGC's use ratio of natural gas, which is recognized as clean energy, is large and its component ratio in

energy sources was 38% in fiscal 2006.

In the Yamakita plant, the fuel of the boiler was converted from heavy oil to the natural gas (the city gas 13A) in the end of fiscal 2006. As a result, the reduction in the amount of the CO₂ emission is expected to be about 3,000 tons a year. And the component ratio of natural gas in the energy source of all our plants is expected to increase through the conversion to natural gas at the Mizushima plant.

Moreover, MGC continues to participate in the business of the geothermal generation of electricity which hardly generates CO₂ with Mitsubishi Materials Corporation.



New natural gas-fired boiler (The Yamakita plant)

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 energy consumption report to the government.

MGC improved our entire distribution system, which was established in 2005, to calculate transportation amount (ton·km), energy consumption and amount of CO₂ emission and to take data such as transportation weight (ton), transportation distance (km) and transportation mode.

The performance in 2006 was as follows: transportation amount was 584 billion tons·km, and

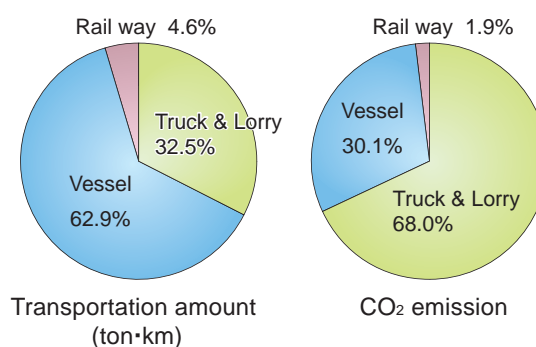
amount of CO₂ emission was 32 k tons.

We are working on the following reduction plan of CO₂ emissions.

We are implementing not only the transportation with suitable sized vehicle but also improvement in loading ratio in conformity with the introduced MGC's entire distribution system, and our transportation efficiency is improved by the modal shift from the tanker lorry to rail way container service.

From now on, we will promote the recommending of the idling stop and eco-drive in a grand transportation and schedule the enlargement of ship for the reduction in the transportation frequency and electric propulsion ship for reduction of CO₂ emissions rate.

Transportation mode ratio



New chemical tanker (Ryoueimaru II)

Message from the GHG task force leader Corporate Officer Makoto Mizutani

The Kyoto Protocol came into effect in February, 2005, and Japan came to have the obligation of 6% reduction of the GHG emission in comparison with 1990 for the first commitment period (2008-2012).

And then, the voice to have misgivings about global warming is growing more and more worldwide.

MGC established the GHG task force in October, 2005. Since then we have been promoting the energy conservation measures and the GHG emission reduction measures, and as a result, we obtain some remarkable results. We also consider countermeasures of GHG emission reduction in our distribution section.

Hereafter, further effort to improve the energy consumption rate will be continued because of the increase of new plant construction.





Approach to chemicals release reduction

Chemicals specified by the PRTR Law

In our assessment in fiscal 2006, forty six chemicals were those to be subjected to register out of 354 chemicals specified by the PRTR law.

As a result, the total release amount was 279 tons (decreased by 19% compared with the previous year) and transfer amount was 468 tons (increased by 33% compared with the previous year). The increase resulted from the waste liquid generated by the pilot plant operation.

In fiscal 2006, the approach to reduce Dichloromethane and Xylenes with more release amounts than other specified chemicals at MGC was conducted.

Dichloromethane	: FY 2005	211 tons
	FY 2006	170 tons
Xylenes	: FY 2005	78 tons
	FY 2006	65 tons

The registered chemicals on the basis of the PRTR Law (results in fiscal 2006)

(unit : tons/year)

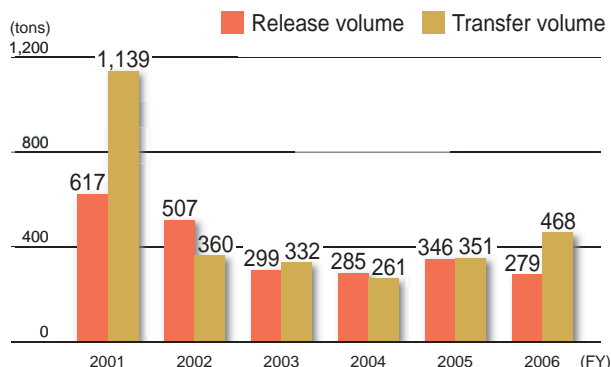
No.	Chemicals	Release amount			Release Total	Transfer Total
		Air	Water	Soil		
145	Dichloromethane	169.9	0.0	0.0	169.9	4.2
63	Xylenes	65.1	0.0	0.0	65.1	36.8
283	Hydrogen fluoride and it's water-soluble salt	0.5	17.6	0.0	18.1	0.7
227	Toluene	6.7	0.0	0.0	6.7	31.7
40	Ethylbenzene	3.8	0.0	0.0	3.8	0.0
304	Boron and it's compounds	0.1	3.5	0.0	3.6	0.1
310	Formaldehyde	1.2	2.1	0.0	3.3	9.3
224	1,3,5-Trimethylbenzene	1.9	0.0	0.0	1.9	14.5
253	Hydrazine	0.4	1.2	0.0	1.6	0.1
42	Ethylene oxide	1.5	0.0	0.0	1.5	0.0
320	Methylmethacrylate	1.1	0.0	0.0	1.1	12.5
299	Benzene	0.6	0.0	0.0	0.6	0.7
311	Manganese and it's compounds	0.0	0.4	0.0	0.4	0.4
312	Phthalic anhydride	0.4	0.0	0.0	0.4	6.5
54	Epichlorohydrin	0.3	0.0	0.0	0.3	0.7
316	Glycidyl methacrylate	0.1	0.0	0.0	0.1	66.9
318	Dimethylaminoethyl methacrylate	0.0	0.0	0.0	0.0	55.9
	Others (29chemicals)	0.1	0.7	0.0	0.8	226.8
	Total (46chemicals)	253.7	25.5	0.0	279.2	467.8

PRTR

PRTR is the acronym for 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.

Transition of the specified chemicals release volume and transfer volume in the PRTR Low list



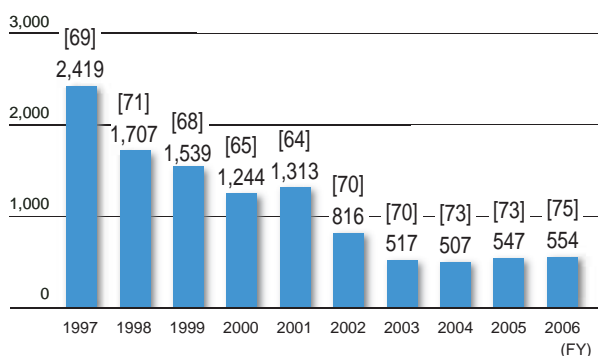
PRTR chemicals in the list of JCIA

MGC has been voluntarily conducting the surveys and reduction of the PRTR chemicals release and transfer from our plants.

(Those PRTR chemicals are listed by the Japan Chemical Industry Association (JCIA), and the PRTR Law-listed 354 chemicals are all included in the JCIA's list with 481 chemicals.)

The total release volume of PRTR chemicals in the JCIA's list

(tons/year) [] Number of chemicals



In fiscal 2006, we had specified 75 chemicals as those to be assessed out of 481 chemicals including 480 ones specified by JCIA's list. Our RC mid-term target (2006-2010) is to reduce 10% release of chemicals listed in PRTR compared with fiscal 2004. Unfortunately, it increased by 9% compared with 2004 due to the increase of Acetone and n-Hexane in spite of the reduction of Dichloromethane and Xylenes.



The eliminator of harmful air pollutants in off-gas

Volatile Organic Compounds (VOC)

Volatile Organic Compounds means a generic term of organic compounds that become gas in the atmosphere because of their volatility.

The VOC is one of the causative agents for the suspended particles and the photochemical oxidants whose influence on someone's health is feared.

The concept of the best mix, which means the best mix and the best match of the regulations for the VOC emission facilities and the voluntary approach to non-regulated facilities, has been introduced in the amended Air Pollution Control Law in 2004, as a framework of the emission control measures of VOC. MGC is concerned with 20 chemicals out of main 100 VOC listed by the Ministry of the Environment.

Compliance

Under the Air Pollution Control Law, the owner of facilities regulated by the law are obligated to register these facilities to the local government and to measure the emission concentration of VOC.

MGC properly harmonizes with the registry and the measurement based on the law and regulations.

Registered VOC emission facilities (specified by the Law)

Classification	Requirement	Number
Storage facility	Capacity; over 2,000kl (in existence)	6
Drying facility	Blower capability; over 3,000m ³ /h	5

The voluntary efforts

Because the all VOC registered by MGC are specified in the JCIA's PRTR list, we voluntarily make efforts to reduce the emission amount.

The actual results of the VOC emission amount in fiscal 2006 were 497 tons.

In the responsible care mid-term target (2006-2010), MGC has set the target to reduce 10% VOC release compared with fiscal 2004, and MGC is going to work on its reduction through the concrete measures in each plant. However, it increased by 12% in fiscal 2006.

Our voluntary managed VOC in 2006

Dichloromethane, Methyl alcohol, Xylenes, Methyl ethyl ketone, n-Heptane and the other 15 chemicals

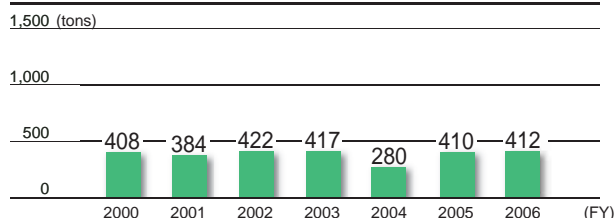


Approach to the Atmosphere, the Waters and the Soil

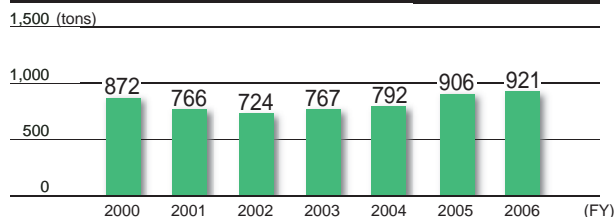
Prevention of air pollutions

MGC has been working on the reduction of the air pollutants such as sulfur oxide (SOx), nitrogen oxide (NOx), soot and dust, etc. The countermeasures for the SOx reduction have been executed, for example, by setting up smoke gas desulphurization equipment of the boiler exhaust gas, and converting the fuel to low sulfur heavy oil or city gas (natural gas) and etc. MGC has kept the concentration and total amount of air pollutants to be sufficiently lower than the required value by laws and regulations, furthermore, we have controlled their values. Each total emission amount of SOx, NOx and soot has slightly increased in fiscal 2006.

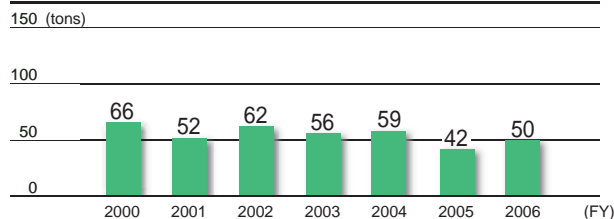
SOx emission



NOx emission



Soot and dust emission



Soil and groundwater contamination investigation

MGC investigates the used situation of harmful substances in production, and also of underground water around the plant.

We had conducted land pollution investigation at the Tokyo Techno-Center based on Tokyo prefecture ordinance. As a result, countermeasures to prevent pollution have been conducted since August 2007 because a chemical concentration that exceeds prescribed standard was confirmed.

We continue to carry out self-management to prevent soil and groundwater from contamination and countermeasures for said prevention on the basis of the Soil Contamination Countermeasures Law and /or the ordinance of the local government.

Prevention of water pollutions

In order to prevent the pollution of rivers and sea, each plant controls the waste water treatment equipments of the neutralizing processing, the activated sludge processing, the cohesion precipitation processing, and etc., and then each plant monitors the drain water quality.

The emissions standards in concentration, total release and etc. are regulated by the law, the ordinance and/or the agreement, although they are different among local self-governing bodies. Each Plant has released the drain with properties under the restriction value to the public waters by waste water treatment.

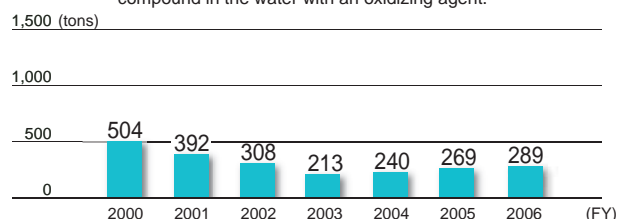
The total nitrogen volume has decreased but COD value and total phosphorus have slightly increased compared with the previous year, in fiscal 2006.



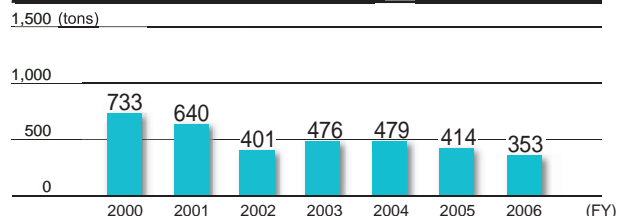
Settling tank in activated sludge system

COD in effluent discharge

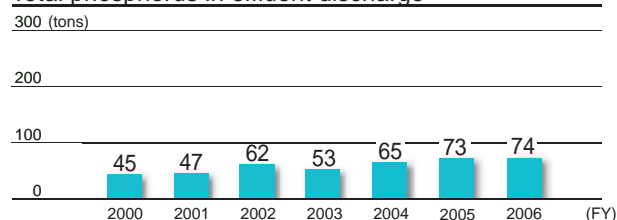
COD: Chemical Oxygen Demand; An index of water pollution which is amount of oxygen required to oxidize an organic compound in the water with an oxidizing agent.



Total nitrogen in effluent discharge



Total phosphorus in effluent discharge





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 is working on achievement of zero emission by 2010. 3Rs; Reduce, Reuse and Recycle

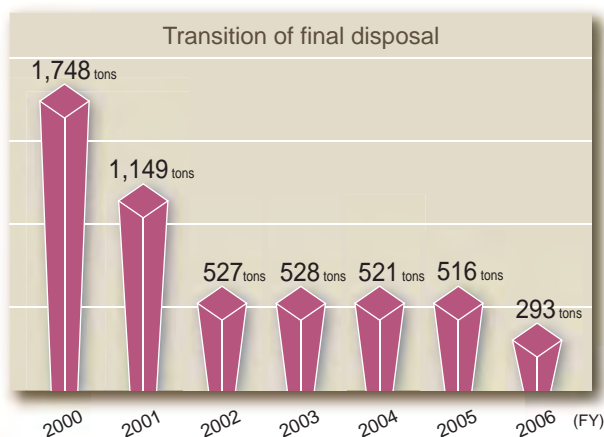
Zero emission status of waste

Two out of the 8 workplaces continued the zero emission *of waste, and 1 workplace achieved it in fiscal 2006.

*) The zero emission of waste : below 0.3%

	2005 FY	2006 FY
The Niigata plant	0.31%	0.24%
The Mizushima plant	0.12%	0.16%
The Naniwa factory	0.13%	0.12%

The Yokkaichi plant achieved the zero emission from 2004 to 2005, but the emission of waste ratio was relatively increased through drastic decrease of the waste generation by fuel conversion from coal to natural gas at co-generation facility in 2006. The Niigata plant achieved zero emission through the decrease amount of final disposal for landfill by treatment of disposal catalyst.

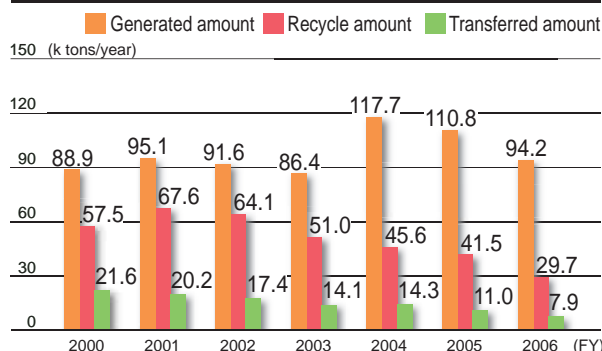


Results of waste reduction

The amount of waste generation, waste to off-site and final disposal for landfill has been reduced in three consecutive years.

The amount of waste generation, waste to off-site and final disposal for landfill was reduced by 15%, 28% and 43%, respectively in fiscal 2006 compared with previous fiscal year. The reduction of recycling amount is due to decrease of cinder and soot by fuel conversion at the Yokkaichi plant.

Transition of waste generation, recycling and transfer



Control of PCB (Polychlorinated biphenyl)

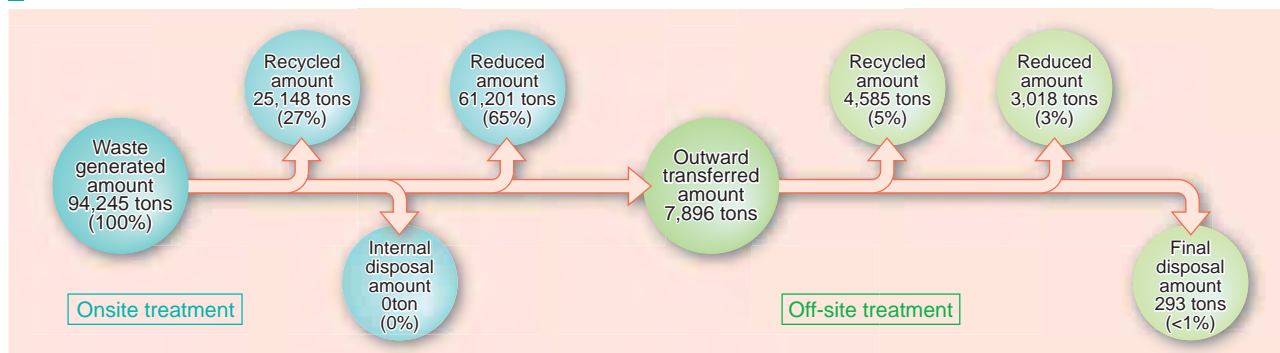
The used equipments that contain PCB are under the strict close control by us. MGC has already commissioned an appropriate decomposition treatment of PCB to the Japan Environmental Safety Corporation (JESCO) Co., Ltd., and currently, we await a decision of final treatment schedule.

The used equipments, that contain low concentration of PCB is under the strict close control by us until the final treatment procedure is decided.



Stored transformer and capacitor

Results of waste treatment in fiscal 2006





Environmental Communications

MGC thoroughly recognizes that we are the member of a society, and makes an effort to enhance the society's confidence to us and to live together with local community through the various communication activities concerning environment.

Disclosure of information

Environmental report publication

MGC has issued the environmental report to include all our environmental and safety efforts since 2001 and has issued its English version since 2003, and then MGC has distributed them to the public for their understanding of our environmental activities. these reports are also disclosed on the following website.

<http://www.mgc.co.jp/eng/csr/index.html>

In addition, the Niigata and Kashima plant have issued and distributed the environmental site report annually, and aftertime the other plants will also publish the site report.

Previous environmental reports (English version)



Web site



Site reports

Disclosure on the internet

The Yamakita plant discloses the site information including its environmental efforts on the web site of the Kanagawa eco network* since 2004 (only in Japanese).

*:The Kanagawa eco network:

<http://www.pref.kanagawa.jp/osirase/iso/98/econet00.html>

It is the network sponsored by Kanagawa prefecture on the internet for the building of a sustainable society among businesses, organizations, academy, local government and NPO.

Participation in the JRCC's community dialogue meetings

MGC has been working on Responsible Care activities concurrently with the Japan Responsible Care Council (JRCC) inception. The Mizushima Plant supported the community dialogue meeting in Okayama area on November 16th 2006, as one of administrative agents.

At the meeting with the participation from NGOs, community residents, local government and businesses, the plant tour and actively dialogue with community residents were implemented and the meeting turned out significant.



The 5th RC community dialogue meeting in Okayama

Participation in exhibition concerning environment

MGC exhibited the methanol fuel cell, the dumping materials and the environmental chemicals at the booth in the ECO MANufacture (ECOMA) 2006 which was held at the PACIFIC CONVENTION PLAZA YOKOHAMA from November 29th to December 1st, 2006. MGC has been exhibiting our eco-products and eco-technologies at this exhibition since its inception in 2004. The number of visitors became twice as much as the first exhibition and this indicates that people take interest in environmental problems.



ECO MANufacture 2006

Involvement in local communities

Beautification movements

MGC takes the various beautification movements such as regular cleaning of roads around site or a local area.



Cleaning the road around the Hiratsuka Laboratory



Cleaning the area by the Tokyo Techno-Center employee

The Mizushima plant including retired employees participated in the cleaning campaign for refreshing Mizushima Port, which was held by District Transport Bureau, Maritime Safety Agency, Okayama Prefecture, Kurashiki-City and businesses as the event for Marine Day.

Traffic safety campaign

Over the past 20 years, the Yokkaichi plant has been leading citizen to the traffic safety once a month in cooperation with neighboring 3 companies at the school routes, where there is heavy traffic. At the same time, the Kashima plant has been checking the compliance with traffic rules twice a year such as wearing a seat belt as part of activity by the traffic safety organizations in the industrial complex. In addition, the Niigata Research Laboratory participated in the introduction activity for traffic safety as the event for traffic safety week twice a year.



Patrol for traffic safety at the Kashima plant

Participation in community event and Opening the site

MGC promotes the communications with local community through participating in community festival, and opening our gyms and ground etc. to the community resident.



Summer festival
in resident's association
The Yamakita plant



Mizushima port festival
The Mizushima plant

Workplace tour

Each workplace has been implementing the plant or laboratory tour for students. The Niigata plant has been welcoming the plant tour over the past 20 years, and the Yamakita plant has been supporting the on-site one day training for local junior high school students since 2001. In addition, the Hiratsuka Research Laboratory has been supporting the technical expert development class and the on-site training availing during spring break and summer vacation for school.



Laboratory tour (The Hiratsuka laboratory)

Contribution to society

Victim assistance

MGC donated for afflicted people by the Niigata Chuetsuoki earthquake in 2007 through the Niigata prefecture Community Chest.



Environmental and Safety Activities in Affiliates (1)

MGC group's fundamental 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

MGC group's environmental and safety conference

MGC group has been working on various activities through the environmental and safety information exchange meeting which is now consisted of MGC and chemicals working 14 affiliates and was launched in 2003.

This meeting name was changed to the MGC group's environmental and safety conference in 2006, because the information exchange was recognized to come to stay and the activity based on PDCA cycle (planning - doing - auditing - information exchange) has been making progress and it has been beyond the information exchange, in addition, the conference developed the rule of conference.

The main activities in the conference are as follows.

(1) Meeting for environment and safety of MGC group

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

(2) Environmental and safety inspection

Several affiliates are inspected for environment and safety every year by Director in charge of environment and safety in MGC.

MGC inspected the Toyo Kagaku Co., Ltd, the Fudow Co., Ltd and JSP Corporation in 2006.

(3) Liaison meeting for coordinator

The executive office in conference visits an affiliate once every year and exchanges the environmental and safety information.



Auditing for environment and safety (JSP)



Liaison meeting for coordinator (Toyo Kagaku)

Environmental and safety inspection for foreign affiliate

All foreign affiliates do not participate in the conference, however, MGC also inspects foreign affiliates to support their environmental and safety activity in the similar way to domestic affiliates.

MGC inspected both MGC Pure Chemicals America, Inc. and MGC Advanced Polymer, Inc in the North America in 2006.

Environmental loads by MGC group

The following tables show the environmental loads by MGC and 13 affiliates in fiscal 2005 and 2006.

The number of production sites in MGC group			
Fiscal 2005 (MGC and 12 affiliates)		Fiscal 2006 (MGC and 13 affiliates)	
MGC	8 production sites	MGC	8 production sites
Affiliates	30 production sites	Affiliates	32 production sites

NPUT	Unit	FY 2005	FY 2006
Energy consumption (as crude oil)	10 ³ kl	668	668
Water consumption	km ³	45,103	47,845
Tap water	%	3	2
Groundwater	%	4	4
Industrial water	%	58	56
River water	%	33	35
Others	%	2	3

OUTPUT	Unit	FY 2005	FY 2006
Atmospheric emissions			
GHG emission (as CO ₂)	k tons	1,856	1,868
SOx emission	tons	470	463
NOx emission	tons	1,081	1,056
Soot and dust emissions	tons	59	63
Emission of PRTR substances	tons	1,397	1,308
Release to water area			
Total drainage volume	km ³	38,416	39,514
COD emission	tons	321	343
Total nitrogen emission	tons	449	389
Total phosphorus emission	tons	75	77
Release of PRTR substances	tons	36	33
Release to soil	tons	0	0
Generation of waste	tons		
Transfer to off-site	tons	40,115	34,671
Final disposal waste	tons	1,271	1,232
Transfer of PRTR substances	tons	841	848

Manufacture and sale of purified isophthalic acid1-3, Tokyo Sakurada Bldg., Nishishinbashi 1-chome, Minato-ku, Tokyo 105-0003, Japan Phone:+81-3-3503-4811 http://www.agic.co.jp/e_agic/index.html**A.G. International Chemical Company Inc.**

AGIC achieved zero accident, zero occupational injury in 2006. In production sector, we revised the manual of non-routine work, whereby employees assessed themselves through skill assessment table. In addition, we promote energy reduction through the increase of low pressure steam generation by reactor heat removal. In distribution sector, RC activities are strengthened through regular distribution accident training.

Manufacture and sale of blowing agents595-3, Daido Seimei co. Kyoto Bldg., 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/>**Eiwa Chemical Industrial Co., Ltd**

Our manufacture sites are located at Chita peninsula, Aichi prefecture facing beautiful sea, and at Ujitawara, Kyoto prefecture surrounded by tea garden and clean air. We ensured environmental load reduction based on environmental preservation and safety as keywords in 2006, and we worked on 5S activity and risk prediction activity. Hereafter, we will aim at a better environment and safety as only the domestic comprehensive blowing agent manufacturer in Japan.

Manufacture of PC sheet and film4-2242, Mikajima, Tokorozawa-City, Saitama 359-1164, Japan Phone:+81-4-2948-2151 <http://www.mgcfs.jp/top.html>**MGC Filsheet Co., Ltd.**

The Tokorozawa factory is located at Musashino in the bosom of nature. And the Osaka factory is located near the Kanzaki River, branch of the Yodo River.

Since the institution's formation at each place, we have been making efforts to ensure environment and to live together with local community.

In our beautiful environment, I hope we will eco-friendly expand our business by the safety first together with local community.

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

**Electrotechno Co., Ltd**

We have continued the 5S activity for 10 years, moreover we promote revised Hiyari-Hatto (near miss) activity in fiscal 2006.

We recognize that raising not only the technical but also the field capability, which is basis of all activities such as safety, environment and quality, to a higher level is most important, and hereafter we will continue both 5S and Hiyari-Hatto activities.

Manufacture and sale of foamed plastics3-4-2, Shin-Nisseki Bldg., Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan Phone :+81-3-6212-6300 <http://www.co-jsp.co.jp/jspi/jsp/index.html>**JSP Corporation**

We have focused our activities on the reduction of disposal amount of waste plastic that accounts for 90% of industrial waste (especially, reduction of the amount of final disposal for landfill) and the amount of GHG emission.

As a result, the amount of final disposal for landfill was reduced by one third of the previous year, and the amount of GHG emission was reduced to 91% compared with last year. These performances highly surpassed our targets.



Environmental and Safety Activities in Affiliates (2)

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/eng/index.html>



JAPAN FINECHEM Co., Inc.

As part of safety activity, we have worked to promote both Zero accident and Zero occupational injury, safety and stable operation as our most important business objectives in response to accidents at the Niigata and Sakaide plants. As part of environmental activity, we have worked to ensure the environmental load reduction through waste reduction and promotion of energy conservation by reviewing the manufacturing process and optimizing the facility management.

Manufacture of hydrogen peroxide

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



SHIN SANSO KAGAKU Co.

We, SHIN SANSO KAGAKU CO., have joined the MGC group's environmental and safety conference since November 2006. Furthermore, as only the Hydrogen peroxide manufacturer in Hokkaido, we stated to get the ISO 14001 for enhancement of the ensuring environment and safety in our fundamental policy in 2007. In addition, we have worked to develop regional activities such as zero emission network and cleanup activity.

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/>



Toyo Kagaku Co., Ltd

In Aichi prefecture, the damage of Tokai earthquake and Tonankai earthquake is predicted. In 2006, we already introduced the Ai-System to receive the earthquake alarm for evacuation before the earthquake reaches. We also hold an evacuation drill for all employees to be able to escape in 60 seconds. On the other hand, 7 tons per month waste for fuel could be converted to raw material by recycling in 2006.

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/>



Japan Circuit Industrial Co., Ltd.

Following the certificated ISO14001 and the establishment of environment and safety department in 2006, we have worked to ensure the environmental load reduction focus on the promotion of final disposal waste reduction. As part of safety aspect, in order to achieve the zero accident and zero occupational injury, we certainly work on safety and health risk assessment in case of introducing or modifying equipment.

Manufacture and sale of gas purifiers and surface heaterTokyo Sakurada Bldg., 1-1-3, Nishi-Shinbashi, Minato-ku, Tokyo 105-0003, Japan Phone:+81-3-3506-8801 <http://www.japan-pionics.co.jp/en/index.html>**Japan Pionics Co., Ltd**

In order to achieve zero accident and zero occupational injury, we have been working on safety activities such as "risk assessment, risk prediction and Hiyari-Hatto" based on employees' safety awareness. In addition, as a result of implementing environment consciousness to all employees by setting our 4 targets of environment, our environmental activities are firmly established and some remarkable results are obtained.

Manufacture and sale of unsaturated polyester4-13, Kioi-cho, Chiyoda-ku, Tokyo 102-0094, Japan Phone:+81-3-3503-3981 <http://www.u-pica.co.jp>**Japan U-PiCA Co., Ltd**

We had 2 occupational injuries not accompanied by lost working time in 2006. From the fact that we handle a lot of dangerous chemicals compared with other manufacturer, we aim at zero accident and zero occupational injury by conducting risk prediction and 5S activities as well as risk extraction at each section in 2007. At the same time, we will continue our environmental preservation activities.

Manufacture and sale of resins and molded componentsNo.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>**Fudow Co., Ltd**

Based on the improvement of employees' occupational safety and health, and reduction of environmental loads as our fundamental policies, we have been developing our support activities and management through the whole company organization named environment, safety meeting by taking up the problems of other plants and related companies as our practicable themes. At the second year of our activities, we have a good feeling that our staff in charge of environment and safety activity has grown up with high awareness.

Manufacture and sale of purified terephthalic acid

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

**Mizushima Aroma Co., Ltd.**

In the midst of an economic boom, the increase of production opportunity in our plant has been attempted, and investment projects have also increased. On the other hand, the facilities are getting older and older. Ensuring preventive maintenance of the old facilities to eliminate trouble and accidents from occurring has become a big requirement for business continuation and development. We will make every effort to ensure the system for safety and stable operation.

Manufacture of Mass molding laminates, Process., Development

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

**Yonezawa DIA Electronics Co., Ltd.**

Our factory is located nearby Mogami river upstream, and in region richly endowed with nature, and the plants produce the Mass molding laminates, Lubricated entry Sheet etc. We became a member of the MGC group's environmental and safety conference since April 2006. As a result, we have worked on the environmental and safety activities more than before. Furthermore we aim at the improvement of the quality of our activities by the certified ISO 14001 acquisition.



Responsible Care Activities at Each Plant

① The Niigata plant

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



Plant manager
Yoshihiro Yamane

Comments by plant manager

The Niigata plant is located in beautiful and water-rich environment as represented by the Japan Sea on the north side and the Agano River on the west side. In this environment, we have determined the environmental preservation and the ensuring the safety as the base for our business, and have set the target of reduction of environmental loads, the zero accident and zero occupational injury and safety-security-stability operation. We are together working on the sound development of us for aiming to promising plant and gaining trust of community by securing of compliance.

Water consumption (km ³)	13,852
GHG emissions (k tons)	552
NOx emissions (tons)	406
SOx emissions (tons)	0
Drainage volume (km ³)	9,274
COD emissions (tons)	59
Transfer to off-site of waste (tons)	3,060
Final disposal waste (tons)	141

Main products

- Ammonia
- Formalin
- Methyl methacrylate
- Methoxylylene diamine
- Ubidecarenone (Co-enzyme Q₁₀)

Substances listed by PRTR law	Release (tons)	Transfer (tons)
Ethylene oxide	1.5	0
Methyl methacrylate	1.1	13.0
Vanadium pentoxide	0	5.6

② The Mizushima plant

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



Plant manager
Shigenobu Ono

Comments by plant manager

We have worked positively on the environmental load reduction in accordance with the introduction of ISO 14001. In the fiscal 2007, for further environmental load reduction, we will promote fuel conversion project to natural gas, project of installing energy-saving boiler and turbine as well as improved facility to reduce released xylenes, and technology development for stabilization of fluorine in waste water.

Water consumption (km ³)	12,615
GHG emissions (k tons)	693
NOx emissions (tons)	486
SOx emissions (tons)	405
Drainage volume (km ³)	11,228
COD emissions (tons)	165
Transfer to off-site of waste (tons)	2,273
Final disposal waste (tons)	48

Main products

- Xylenes
- Aromatic aldehydes
- Trimellitic anhydride
- Pyromellitic anhydride
- Polyols

Substances listed by PRTR law	Release (tons)	Transfer (tons)
Xylenes	65.0	37.0
Hydrogen fluoride and its water soluble salt	18.0	0
Ethylbenzene	3.8	0

③ The Kashima plant

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



Plant manager
Tsukasa Sawai

Comments by plant manager

From the view-point "to earn and maintain society's trust" as the basis of company survival, we publish and distribute our environmental and safety site report as part of our dialogue with the community. Moreover, we continue to improve our activities of disaster prevention, environmental preservation and chemicals safety. Through these RC activities, hereafter we firmly supply useful polycarbonate and hydrogen peroxide to the society.

Water consumption (km ³)	1,947
GHG emissions (k tons)	190
NOx emissions (tons)	7
SOx emissions (tons)	0
Drainage volume (km ³)	1,795
COD emissions (tons)	14
Transfer to off-site of waste (tons)	562
Final disposal waste (tons)	11

Main products

- Hydrogen peroxide
- Polycarbonate

Substances listed by PRTR law	Release (tons)	Transfer (tons)
Dichloromethane	164.0	2.0

④ The Yokkaichi plant

Address: 2-4-16, Hinagahigashi, Yokkaichi-City, Mie 510-0886, Japan
Phone: +81-593-45-8800



Corporate officer
Plant manager

Yuh Miyauchi

Comments by plant manager

The Yokkaichi plant has already achieves the 6% reduction of GHG emission in comparison with 1990, which is specified by the Kyoto Protocol, and is almost certain to achieve the numerical target on energy consumption rate and GHG emission index in comparison with 1990.

From now on, we will work on the business activity, by making efforts to reduce environmental load, which will result in the affable attitude to earth and also will endear us to community residence.

Water consumption (km ³)	7,427
GHG emissions (k tons)	97
NOx emissions (tons)	9
SOx emissions (tons)	3
Drainage volume (km ³)	5,858
COD emissions (tons)	42
Transfer to off-site of waste (tons)	562
Final disposal waste (tons)	6

Main products

- Hydrogen peroxide
- Chemicals for electronics industries
- Polyacetal
- Monomer for plastic lens
- Sodium percarbonate

Substances listed by PRTR law	Release (tons)	Transfer (tons)
Hydrazine	1.6	0
Formaldehyde	2.8	9.3

⑤ The Yamakita plant

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



Plant manager

Yoshio Nakabayashi

Comments by plant manager

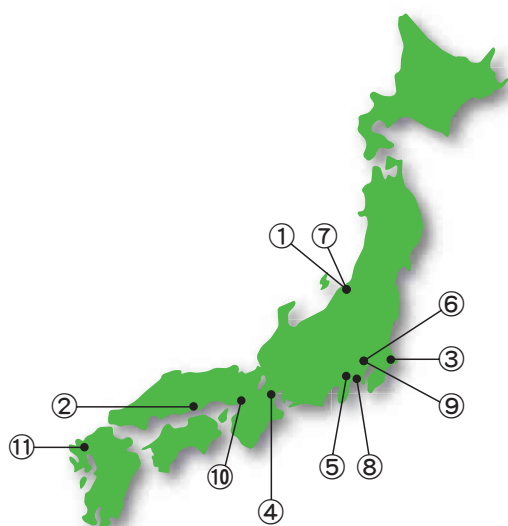
The Yamakita plant has been in operation under the favorable environment such as close to the Sakawa River, Fuji-Hakone and Tanzawa cordillera. In order to preserve this environment, we have to save resources and energy completely without presuming on abundant water resource. In addition, we work on strengthening further mutual trust with local residents by introducing MGC's efforts to RC activities.

Water consumption (km ³)	6,381
GHG emissions (k tons)	32
NOx emissions (tons)	9
SOx emissions (tons)	4
Drainage volume (km ³)	5,756
COD emissions (tons)	8
Transfer to off-site of waste (tons)	470
Final disposal waste (tons)	11

Main products

- Ultra pure hydrogen peroxide
- Persulfates
- Chemical polishing agents
- Acetyl hydroperoxide

Substances listed by PRTR law	Release (tons)	Transfer (tons)
Hydrogen fluoride and its water soluble salt	0	0.7



Location of other workplaces

⑥ The Tokyo research laboratory

Address: 1-1, Niijuku 6-chome, Katsushika-ku, Tokyo 125-0051

⑦ The Niigata research laboratory

Address: 182, Tayuhama Shinwari, Kita-ku, Niigata-City, Niigata 950-3112

⑧ The Hiratsuka research laboratory

Address: 6-2, Higashiyawata 5-chome, Hiratsuka-City, Kanagawa 254-0016

⑨ The Tokyo techno-center

Address: 1-1, Niijuku 6-chome, Katsushika-ku, Tokyo 125-8601

⑩ The Naniwa factory

Address: 3-27, Funamachi 1-chome, Taisho-ku, Osaka -City, Osaka 551-0022

⑪ The Saga factory

Address: 681-45, Kamikumakawa, Fuji-cho, Saga-City, Saga 840-0512

RC REPORT 2007



Editing division and Contact for MGC Responsible Care further information
Environment and Safety Division
MITSUBISHI GAS CHEMICAL COMPANY, INC.
Mitsubishi Building, 5-2, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8324, Japan
Phone : +81-3-3283-4828 Facsimile : +81-3-3283-4840
URL : <http://www.mgc.co.jp/eng/index.html> (English)
<http://www.mgc.co.jp> (Japanese)

