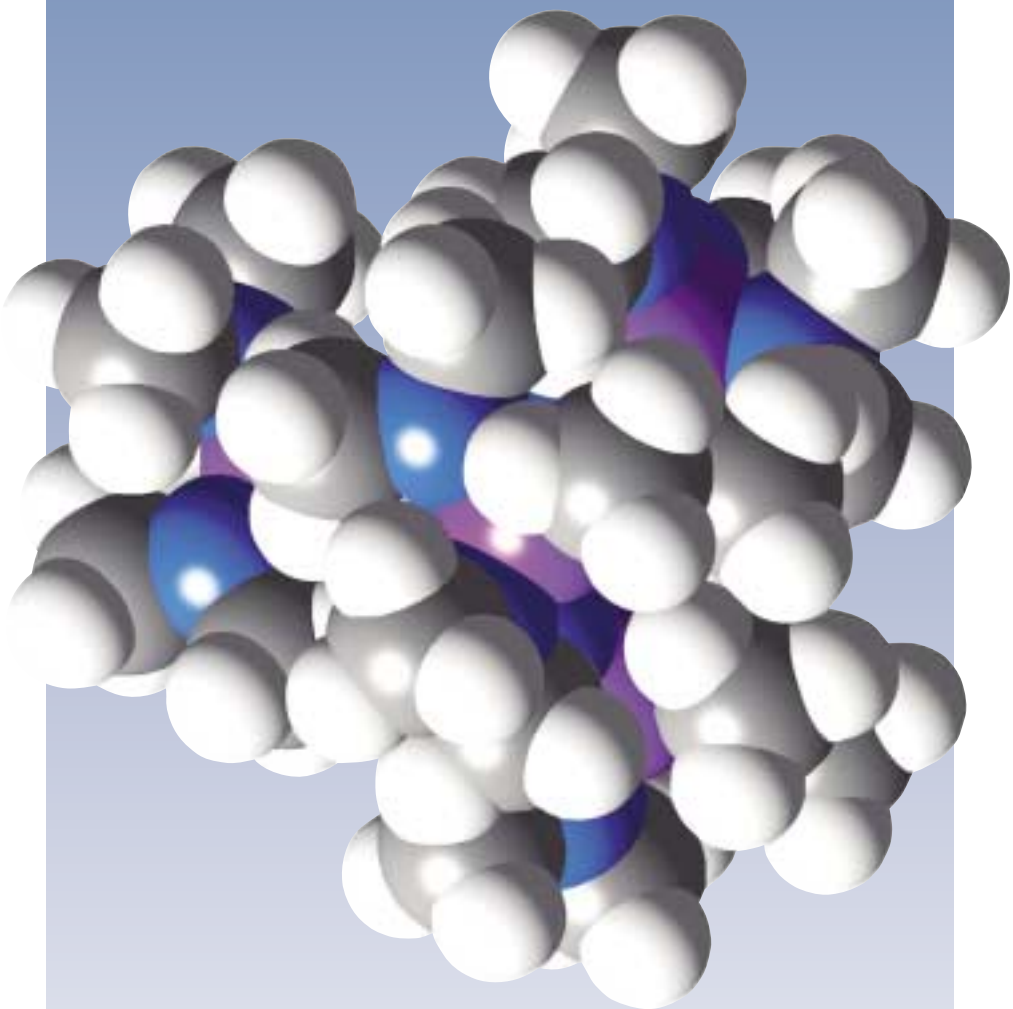
2004

Responsible Care Report

Our Commitment to the Environment, Safety, Occupational Health, and Quality



Mitsui Chemicals

In Pursuit of Sustainable Development

Hiroyuki Nakanishi
President
Mitsui Chemicals, Inc.

Direction for Future Growth

You have laid down the direction for future growth in your New Medium-Term Plan. What are your future prospects?

We aspire to be a Strong and Excellent Mitsui Chemicals Group with a strong competitive position in the global market. We will do this by developing our business activities based upon our corporate mission statement: "Contribute broadly to society by providing high-quality products and services to customers through innovations and the creation of materials, while keeping in harmony with the global environment." Despite the increasingly severe business environment, we will cultivate a more robust competitive lead and earn the trust of customers and society as a whole. And while we are doing that, we will continue to create a dynamic workplace shared by employees full of vitality to realize a "Strong and Excellent Mitsui Chemicals Group."

We have laid down the direction for future growth in order to realize our Corporate Vision. The key concept is the "Shift from Commodities to Specialties." Aiming at an increase in the ratio of Performance Materials in total profit to 70% in the next 10 years, and energized by the keyword "Challenge for Change," we will meet head-on the challenge to change our business structure called for by our MT-Plan. In other words, by emphasizing selection and focus, we will pursue the two objectives of "expanding and growing Performance Materials" and "strengthening the profitability of our Petrochemicals and Basic Chemicals sectors."

We will also change our business structure with emphasis on five key fields. First of all, we will concentrate on strengthening competetiveness and profitability in the Petrochemicals and Basic Chemicals (P&BC) sector. We will do that by concentrating our management resources into businesses centered on the propylene chain, including polypropylene itself, and the aroma chain, including purified terephthalic acid. Those will be platforms for our Performance Materials sector. We will next set our sights on expanding and growing Functional Polymers, and thereafter on expanding and growing our Information and Electronics Materials and Healthcare Materials.

Through these changes in business structure, we will secure the foundation of our corporate management and earn firm bonds of trust from society.

Responsible Care (RC)

The Mitsui Chemicals Group is implementing RC initiatives for harmonization with the global environment, as advocated in its Corporate Mission. What is their relevance to your sustainable growth?

For a company that handles chemical products, it is of paramount importance to take responsible initiatives to protect and maintain the environment, safety and product quality. The company has to provide honest reports aobut their results to society.

Japan's chemical industry began implementing RC activities in 1995. Manufacturers of chemical substances set their own goals and took individual responsibility in establishing principles to work by. Mitsui Chemicals has been conducting proactive efforts with significant results since the beginning of these efforts.

Our diverse efforts include environmental load reduction, prevention of process accidents and labor accidents by upgraded safety processes and disaster prevention, improving occupational health conditions, improving product safety assessment from the viewpoint of prevention of PL-related accidents, and increasing eco-efficiency. More details are given later in this report.

At each of our works, we are working to deepen the trust we have earned from society by positively disclosing information on our RC activities to local residents. We keep their opinions in mind when we upgrade our facilities.

We are steadily implementing responsible care through these activities, and we believe it necessary to carry through with further improvements and efforts to create a sustainable society. Mitsui Chemicals has a theme of "caring for environment, safety and quality," one of the basic strategies in our Medium-Term Corporate Plan. We strive for continuing improvements based on group-wide, voluntary adherence to the principles of RC. We believe this is the best way to achieve sustained growth while responding quickly, and from a global viewpoint, to the changes in our environment.

Corporate Social Responsibilities (CSR)

In recent years, CSR has attracting attention. What do you think about Mitsui Chemicals' CSR?

We think that the concept of CSR is included in the scope of Responsible Care, and are conducting voluntary responsible efforts for the environment, safety and quality, to ensure legal compliance and earn social trust.

We are also promoting a variety of CSR-based activities, as an essential part of our RC initiatives, in other fields besides the environment, safety and quality.

For example, we are making a concerted, group-wide effort to reduce risks and ensure legal compliance under the supervision of the Risk Management Committee, (established in 2001 to oversee efforts in the environment, safety, quality, and other fields). We believe that we will be able to make valuable contributions to society through our talents in chemical technology and catalysts by developing environmentally friendly products. We will continue supporting the birth of "green chemistry" by publicizing our results in international symposiums and through our Mitsui Chemicals Catalysis Science Award.

Mitsui Chemicals wants to organize these efforts and their results, including Responsible Care, from the viewpoint of CSR, and to engage in dialogues with a broad range of stakeholders. The dialogues will allow us to provide information on our activities in a more positive, easily understandable manner and maintain our bondsof trust with society. We are determined to contribute to the creation of a sustainable society and to earn respect as the "Strong and Excellent Mitsui Chemicals."

November 2004

Corporate Vision

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Corporate Action Guidelines

Every officer and employee of the Mitsui Chemical Group is dedicated to building a Strong and Excellent Mitsui Chemicals Group in a strong competitive position in the global market. They are directed to behave with integrity and responsibility in accordance with the guidelines described below.

1. **Environment and Safety** We shall take the initiative in addressing environmental and safety issues to preserve the global environment and secure safety.
2. **Innovations** We shall make our utmost to make technological innovations, considering changes as opportunities.
3. **Customer Satisfaction** We shall supply products and services of the highest quality to meet the needs of our customers.
4. **Coexistence with the Community** We shall pursue activities in collaboration with the community as a good corporate citizen.
5. **Self-realization** We shall endeavor to improve ourselves with the aim of becoming professionals who are recognized in the world business community.
6. **Compliance with Laws and Rules** We shall observe all laws, regulations and our corporate rules and act according to our conscience.
7. **Transparency** We shall attach importance to communication with the outside world and disclose Company information in an appropriate and timely manner.
8. **Increasing Company Value** We shall aim at increasing the value of the Company by adhering to the above Action Guidelines.

Editorial Policy

This report is an essential part of our communication with society. This year's report features improvements that reflect opinions and suggestions from stakeholders who read the 2003 issue. As in fiscal 2003, plant tours and opinion exchange meetings were held to foster closer relations with local residents. This report focuses on responsible care (RC) initiatives: activities promoting occupational safety and health, process safety and disaster prevention, and product safety.

The report was prepared in accordance with the *Environmental Accounting Guideline 2003* of Japan's Ministry of the *Environment and the Sustainability Reporting Guidelines 2002* of the GRI (Global Reporting Initiative).

Scope: The environmental preservation data presented in this report were taken from Mitsui Chemicals, Inc. and its domestic subsidiaries and affiliates; other data were taken both from the above and from overseas subsidiaries and affiliates of Mitsui Chemicals. The Yamaguchi Styrene Plant was transferred to Taiyo Sekiyu Kagaku K.K. on January 1, 2004. Accordingly, its environmental preservation data covers the period from April to December, 2003.

Period: April 1, 2003 to March 31, 2004 (some sections cover the period up to October 2004)

Coverage: Environmental aspects, social aspects, economic aspects

Date of issue: January 2005

What is Responsible Care (RC)?

RC encompasses all those activities implemented by manufacturers of chemical substances in order to avoid pollution of the environment. These activities include improvements to methods and processes undertaken in order to preserve the environment or to protect the health of the general public, to protect employees' health, and to prevent damage to facilities.

The world's leading chemical companies take part in these activities under the leadership of the International Council of Chemical Associations (ICCA, established in 1990). In our nation, the Japan Responsible Care Council (JRCC) is in charge of promoting the activities.

More information is available on the JRCC's website.

URL of the Japan Responsible Care Council (JRCC):
http://www.nikkakyo.org/organizations/jrcc/top_e.html

Responsible Care

Corporate Governance and Compliance

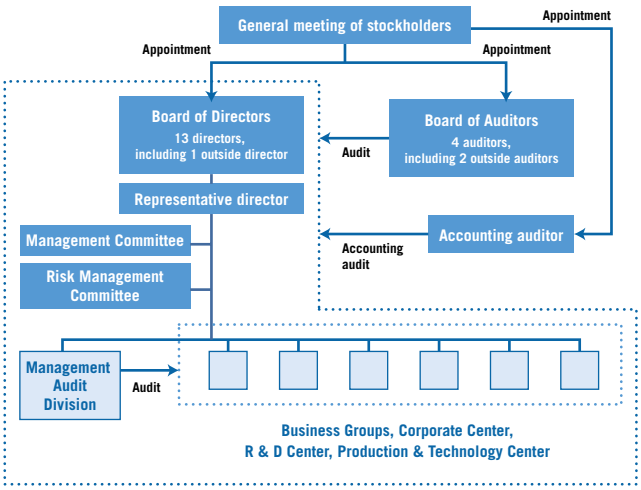
To earn the trust of its shareholders and society at large, and to fulfill its social responsibilities as a corporate entity, Mitsui Chemicals is working to enhance its corporate governance and compliance as outlined below.

Corporate Governance

Mitsui Chemicals has established a system where important decisions are made only after extensive discussions in the proper meeting prescribed by company regulations. The purpose of this system is to continually improve management transparency. Our system of internal control includes the appointment of external directors, establishment of an internal auditing office, and organization of the Risk Management Committee which reports directly to the president. Further, the effectiveness of our corporate governance system is enhanced by our investor relations and public relations activities, where we disclose information to shareholders, analysts, the media and others outside our company.

In June 2003, Mitsui Chemicals reduced number of its directors by half and adopted an Executive Officer System to clarify the roles and responsibilities of the company's business management function and its decision-making/management supervision function. Additionally, a system of business groups was implemented to further strengthen its previous system of business divisions. These changes will allow our various divisions to carry out their work smoothly and rapidly, as Mitsui Chemicals endeavors to further strengthen and enhance its management functions.

Corporate Governance Chart



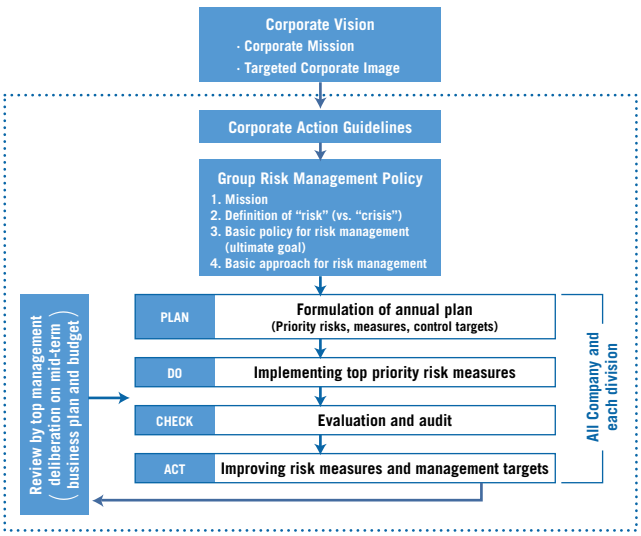
Compliance with Laws and Rules

By adopting the Mitsui Chemicals Group Risk Management System in April 2002, and through the company-wide system shown at the right, we are working to manage corporate risks against all events that may potentially threaten the business activities of Mitsui Chemicals and its subsidiaries and affiliates.

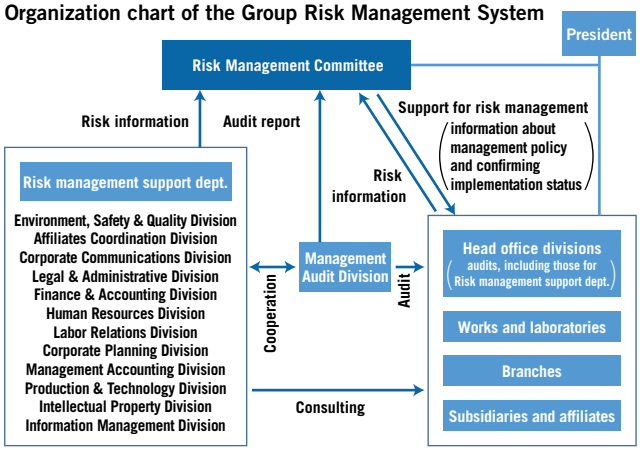
Under the group's risk management system, "Violations of laws and regulations" are considered the highest-priority risk. Risk management is executed on the basis of a "plan, do, check, and act" (PDCA) cycle. There is also a risk hotline through which employees of the Mitsui Chemicals Group, including subsidiaries and affiliates, can directly report to, or consult with, the Risk Management Committee on any suspicious activity within the company without fear of reprisal. Company regulations are clearly stipulated to ensure that employees who contact the committee do not receive any unfair treatment. Some RC items, including environment, safety and quality management, are high-priority issues because they may involve a broad range of potential risks.

In fiscal 2004, Mitsui Chemicals conducted company-wide training sessions on compliance issues for manager-level employees at its head office and every factory and branch office. The sessions incorporated examples of law and regulation violations from both inside and outside our company. Our company also promoted other measures such as distributing the *Our Action Guidelines* booklet (refer to page 39) to every member of the Mitsui Chemicals Group, including affiliated companies worldwide. The guidelines summarize points of attention for our employees when carrying out their work.

Schematic chart of the Group Risk Management System



Organization chart of the Group Risk Management System



Basic Approach for Group Risk Management

1. The line managers should ensure that PDCA procedures are carried out when conducting day-to-day risk management.
2. Any employee who has obtained information regarding risks should promptly report all such information to his or her line superior.
3. Any employee who has obtained any information regarding risk should not keep it within his or her department, but should share it promptly with other departments and seek cooperation.
4. Each individual employee should be keenly aware that he or she is personally responsible for risk management, and should maintain an awareness of risk at all times.

Basic Policy Regarding the Environment, Safety, Occupational Health, and Quality

Mitsui Chemicals is developing business activities based on a corporate mission which states, "Contribute broadly to society by providing high-quality products and services to customers through innovations, and creation of materials and products while keeping harmony with the global environment." We are carrying out our business and manufacturing activities within the spirit of RC, based on the recognition that securing environmental integrity and safety is the very foundation of corporate management. We are implementing this basic policy in relation to *environment, safety* (disaster prevention, product safety), *occupational health* and *quality*.

1. Environment

(1) Contribute to environmental preservation by developing new products and technologies.
(2) Assess and reduce the environmental burden of products through their entire life cycle, from product research and development to final disposal.

2. Occupational Health and Safety

(1) Give priority to securing safety, and aim for accident and injury-free operations.
(2) Promote the formation of an appropriate work environment and support a proactive health program for employees.
(3) Implement safety measures and procedures in handling chemical substances to prevent injury or harm to people connected with our activities, i.e., employees and others involved in production and distribution.

3. Quality

Supply high-quality products and services that earn the trust and satisfaction of customers so that customers feel confident when using our products for their intended applications.

4. Promoting Self-management

Strive for continuous improvement in measures related to the environment, occupational health, safety, and quality, beginning with compliance with all applicable laws and regulations based on voluntary adherence to the principles of RC.

Established October 1, 1997
Revised July 1, 2000

Comment from the Senior Director

Today's key concern about sustainable development is how to fulfill corporate social responsibility in a broad range of issues, including the environment, safety and quality. At Mitsui Chemicals, we believe it essential to step forward to bear every portion of the responsibility we hold, and to see that our efforts are accurately perceived and accepted by stakeholders. The basis for our efforts must and will always be our policy on the environment, safety, occupational health, and quality. I hope that by issuing this report annually, your understanding of Mitsui Chemicals' responsible care activities will be deepened.

Yoshiyuki Shinohara
Managing Executive Officer:
Center Executive,
Production & Technology Center

Independent Comments on the 2004 Report

Mitsui Chemicals has been publishing these responsible care reports for several years with the objective of earning the trust of the public by providing information on its business activities, with emphasis on its efforts for Responsible Care (RC). We asked several people unconnected with our company to review this year's report during its drafting and to express their opinions on our attitudes and efforts.

Kunitoshi Mitsumori, D.V.M., Ph.D.

Professor,
Graduate School,
Tokyo University of Agriculture and Technology

You are proactively conducting Responsible Care efforts, such as those concerning environmental preservation, occupational safety, process safety and disaster prevention, product safety for consumers, and quality management, to enhance the "harmony with the global environment" advocated in your corporate philosophy. These efforts well reflect your business strategies for sustainable growth in the 21st century. Your efforts for environmental preservation are especially laudable. Reductions of hazardous air pollutants produced during synthesis of chemical substances and complete control of dioxins are essential to the protection of the global environment, so I hope you will continue putting great effort into those programs.

Since commitment to users' safety will draw growing attention from consumers, I encourage you to further promote risk assessment based on new technologies. Regarding environmentally friendly products, I am sure consumers will be very impressed with your success in developing the biodegradable LACEA from plants. I hope you will continue your development of products that are benign to the global environment.

Mr. Akira Kikuchi

Chairman,
Safety Health
Baton Institute

I fully realize that you are working to enhance your concerted efforts to ensure environmental preservation and product safety and quality through RC activities, an essential topic in the chemical industry. In particular, I appreciate your positive attitude about disclosing negative information on the environment, such as chemical substance emissions.

I would like to encourage you to strengthen your efforts in the realm of workplace safety and the environment, and to bear in mind the influence of accidents and disasters at chemical plants on local communities. I hope you will not rest on your current laurels, but aim for even higher levels of ESH management, as a world-class chemical company.

For example, I would like to suggest an aggressive approach to your activities in the following themes:

1. Creating a safe workplace environment and culture through unified efforts, from top management to production lines
2. Establishing a safe environment management style based on your unique set of talents and knowledge

I hope you will establish your own policy concerning safety and the environment and see further development

Dr. Takehiko Murayama

Professor,
School of Science and Engineering,
Waseda University

I appreciate the coverage you have provided of basic topics of responsible care and the dedicated reports on last year's soil and underground water pollution at your Nagoya Works and the fire in a plant at your Iwakuni-Ohtake Works. On the other hand, your efforts for emissions reductions at your business sites as a whole seem to be unsuccessful with respect to CO_2, formaldehyde and others, and some of your factories discharged even higher amounts of substances specified by the PRTR Law compared to last year. I encourage you to conduct further efforts.

I would also like to make a few other recommendations: To streamline your measures to reduce labor accidents; to enhance your compliance system, involving individual workplaces, to set specific goals for risk communication and product safety efforts, and to reach the goal of zero legal violations in your business activities. I hope you will set comprehensive goals, including the social aspects of your business activities, and to implement specific programs in pursuit of those goals.

Ms. Yoshiko Arita

Shodanren·
CJ Consumers Japan

I have been attending Responsible Care dialogue meetings held by the Japan Chemical Industry Association as a stakeholder. I was often impressed by your corporate image and culture during talks by Responsible Care managers from your company. In reviewing this year's report, I took note of the sincerity and clarity in editorial design and information disclosure. I appreciate your efforts in systematic management of chemical substances, compliance with the PRTR Law, and reductions of legally specified substances. The topics of your research into environmentally friendly technologies, risk communication status and others in the Highlights section are also very informative and easy to understand. I would like to note, however, that you were not as clear in presenting negative information; you used fine print and the writing sounded strained. Although there may be not sufficient space to do so in this report, I encourage you to present negative information in a more easily readable way in the future, as it represents a key to demonstrating corporate management transparency. Although the case reports of workplace environment improvements demonstrate your efforts for better occupational safety and health, you should have provided more information such as labor unions' opinions.

As you state that Mitsui Chemicals wants to systematize your RC-related efforts and their results from the viewpoint of CSR, I hope you will continue to be positive in providing reliable information in an easily understandable manner.

Notes on the Independent Review

On this occasion, we received many helpful comments and suggestions on our efforts from the participating stakeholders.

The reviewers expressed their frank opinions on a broad range of issues, including environmental load reductions, product risk assessment, development of environmentally friendly products, process and product safety, risk communication, legal compliance systems, CSR-related efforts, and transparent, easily understandable disclosure of corporate information. We will bear these opinions in mind and will strive to make further improvements in our RC activities in response to your expectations.

Yoshiyuki Shinohara

**Managing Executive Officer:
Center Executive,
Production & Technology Center**

Highlights

Making Way for the Future through Catalysis Science

— Catalysis Science Laboratory

Located at Sodegaura City, Chiba Prefecture, the Catalysis Science Laboratory serves as the base for Mitsui Chemicals' R&D activities. Its investigational system ensures a united effort in research into catalysis science, from development of new catalysts to design of basic processes for their reactions. Described below are examples of efforts by researchers who have developed genetic pharmaceutical materials and catalysts for decomposition of dioxins.

Fusion Technology in Support of Development of Genetic Pharmaceuticals

— New Process for Deoxynucleosides —

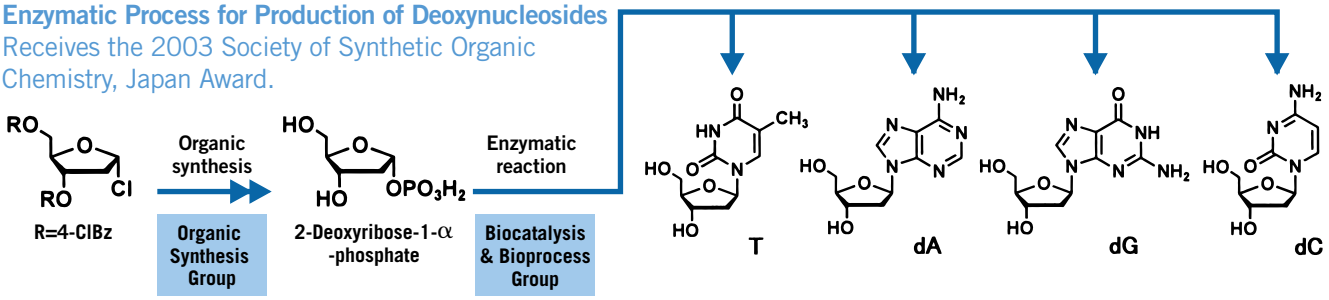
Oxynucleosides, compounds that constitute DNA (genes), occur in four kinds: thymidine (T), deoxyadenosine (dA), deoxycytidine (dC), and deoxyguanosine (dG). In recent years, they have found new applications as raw materials for genetic pharmaceuticals for immune disorders, cancers, diabetes and other diseases. Traditionally, oxynucleosides have been extracted from salmon sperm via decomposition and purification processes, but the yield has been poor, just 55 kilograms of the desired product from 100 tons of source material salmon, representing a bottleneck in satisfying the growing demand. Although a method of chemical synthesis is known, its cost is high and it is vulnerable to contamination with related substances. Another drawback resides in the major environmental load of the method; the volume of organic solvents and other forms of industrial waste, which amounts to several thousands of times the volume of the desired product.

With this in mind, our researchers designed a route for enzymatically converting 2-deoxyribose-1-α-phosphoric acid (dRP) to deoxynucleosides. The Organic Synthesis Group was tasked with synthesis of dRP, and the Biocatalysis & Bioprocess Group was in charge of development of enzyme; both tasks required new ideas. After many experiments by trial and error, they developed methods of synthesizing T, dA and dG, but dC remained out of reach. Then, they tried an old stock of enzyme that had long been stored in a refrigerator, and found that dC was produced in a trace but measurable amount. Cheered by this discovery, they conducted successful investigations to improve the efficiency of the enzyme. Ultimately, Mitsui Chemicals researchers succeeded in developing a method of synthesizing all the four kinds of deoxynucleosides using only a single process. This method reduces industrial waste volume and produces no related substances as by-products that can pose quality-related problems. The new technology developed by the two groups has enabled highly efficient production of dC of high quality.

Hironori Komatsu, Senior Researcher, Organic Synthesis Group / Toshihiro Oikawa, Senior Researcher, Biocatalysis & Bioprocess Group

I'm involved in research into fusion of chemical and enzymatic synthesis and our capability of combining different technologies to develop new catalysts represents a form of Mitsui Chemicals' good corporate culture. I want to expand and upgrade this property by making use of the efforts that have been conducted by the members of our team (Komatsu). / I want to contribute to creating a sustainable society for our descendants to live affluent and sound lives in a better environment by pursuing chemistry-based biotechnological innovations and developing manufacturing processes of reduced environmental load using enzyme catalysts (Oikawa).

Enzymatic Process for Production of Deoxynucleosides
Receives the 2003 Society of Synthetic Organic Chemistry, Japan Award.



Results at the Catalysis Science Laboratory

The Catalysis Science Laboratory is conducting a coordinated R&D program, addressing the full range of tasks in production of Mitsui Chemicals' chemical products, from design of synthesis routes and development of catalysts to design of basic processes for their reactions. The philosophy of its activities is the "green chemistry" concept, which prioritizes reducing environmental load.

Roles of individual research groups in the Catalysis Science Laboratory

Catalysis Science Laboratory
Mission: Research and development for all of Mitsui Chemicals' chemical products to develop coherent technologies in catalysis science, from design of synthetic routes and development of catalysts to design of basic processes for their reactions

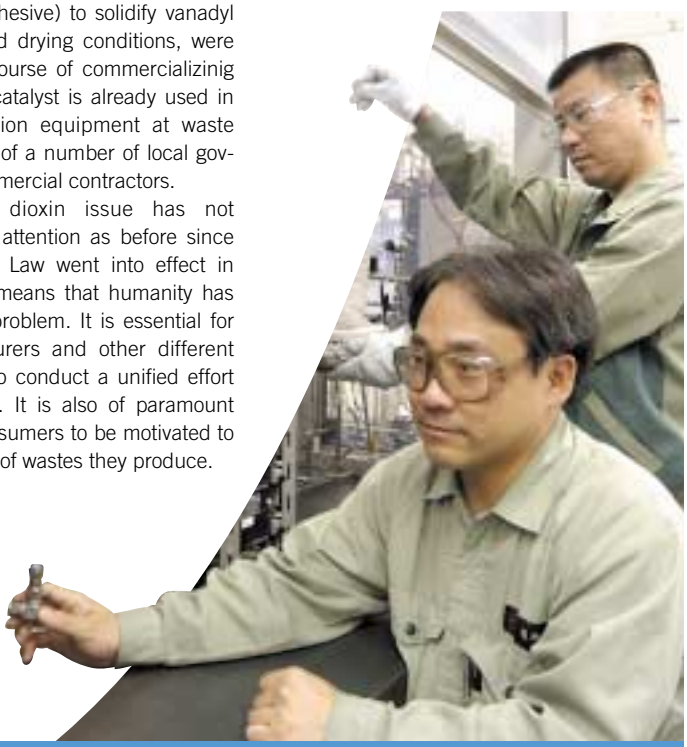
Organic Synthesis Group (Sodegaura)	Design of synthesis routes for functional chemicals and R&D for basic synthetic processes
Molecular Catalysis Group (Sodegaura)	Design and synthesis of molecular catalysts under control at molecular levels and R&D for basic processes using them
Polymerization Catalysis Group (Sodegaura and Iwakuni)	Design and synthesis of olefin polymerization catalysts and R&D for basic processes using them
Heterogeneous Catalysis Group (Sodegaura and Iwakuni)	Design of heterogeneous catalysts (and carriers) under structural control at the nanometer level and R&D for basic processes using them
Biocatalysis & Bioprocess Group (Mobara)	Molecular design of biological catalysts, control of biological reactions, and R&D for basic processes using them

The First Step to Complete Control of Dioxins — Developing a catalyst of honey comb structure —

"Dioxins" generically refers to any of about 200 kinds of organic chlorine compounds that act as "environmental hormones" with adverse effects on organisms' reproduction and health, even in very small amounts. In Japan, more than 90% of dioxin emissions are from waste incineration facilities. Their removal using adsorbents would necessitate final treatment of the adsorbents. Our researchers conducted preliminary investigations and concluded that catalytic decomposition into water and clean gases such as carbon dioxide would be the best solution to the dioxin issue as it is most friendly to the environment and it does not require further treatment. They commenced a full-scale research project seeking a catalyst for efficient decomposition of dioxins.

First, they discovered that a catalyst based on vanadyl sulfate ($VOSO_4$) is highly active in decomposing dioxins. For actual use, the catalyst must be molded into a honeycomb structure that ensures the efficient contact with the exhaust gases and is not prone to clog with dust. Many factors, including the organic binder (adhesive) to solidify vanadyl sulfate, solvent and drying conditions, were optimized in the course of commercializinig the catalyst. This catalyst is already used in dioxin decomposition equipment at waste incineration plants of a number of local governments and commercial contractors.

Although the dioxin issue has not received as much attention as before since the Dioxin Control Law went into effect in 2002, this hardly means that humanity has solved the dioxin problem. It is essential for catalyst manufacturers and other different industrial sectors to conduct a unified effort to solve this issue. It is also of paramount importance for consumers to be motivated to reduce the volume of wastes they produce.



Nobuhiko Horiuchi, Senior Researcher, Heterogeneous Catalysis Group / Kazuaki Matsui, Researcher, Heterogeneous Catalysis Group

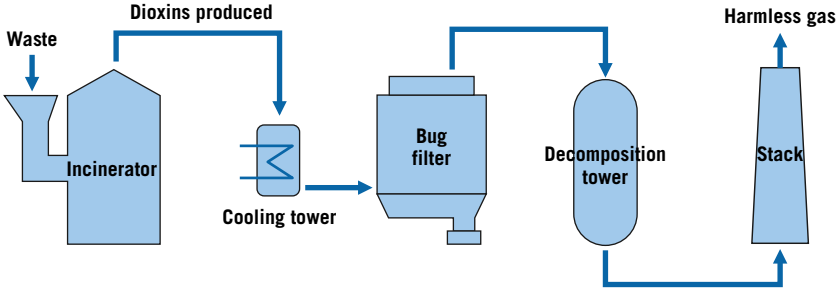
Catalyst technology is expected to serve as a key to resolving many environmental problems in the 21st century. As a researcher in catalyst science, I want to be involved in the development of environmentally friendly products that can contribute to society (Horiuchi).

Dioxin Decomposition Catalyst
Launched in October 2002

Features
- High activity at low temperatures under 200°C
- Long life (2 years or longer)
- Simultaneous removal of NOx

$VOSO_4$-TiO_2 catalyst (ME catalyst)

Honeycomb structure



Highlights

Exploitation of Plant Resources:

For Greenhouse Gas Emissions Reductions and Fossil resource Saving

— Bio-based polymers

In recent years, there has been growing concern about global environmental issues, such as global warming and depletion of natural resources. To create a sustainable society, it is important to sincerely cope with these problems and seek solutions. Against this background, bio-based polymers from corns and sugarcanes are attracting attention since they are effective for reducing greenhouse gas emissions and conserving fossil resources.

Mitsui Chemicals' Commitment

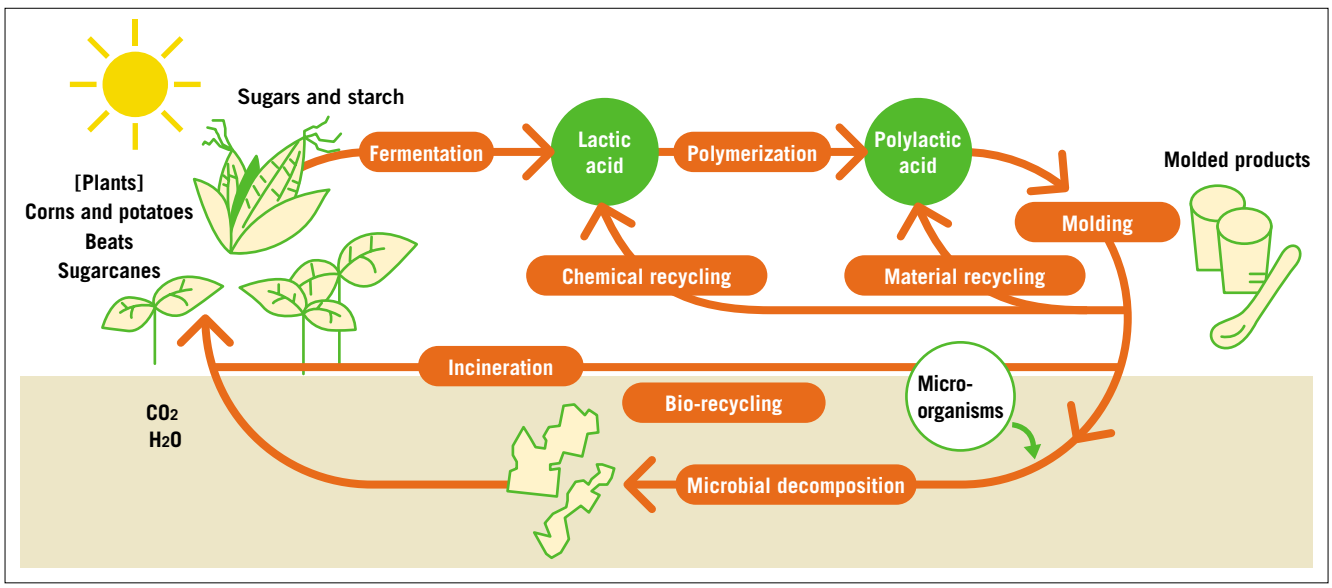
Mitsui Chemicals advocates harmony with the global environment in its Corporate Mission Statement and is constantly seeking new or improved versions of established environmentally friendly materials, products and technologies. We have developed products and technologies that help efficient use of resources. One benefit of Mitsui research has been the lower curb weights of automobiles and the resulting improvements in fuel efficiency enabled by replacing metals with plastics in components such as bumpers and fuel tanks. We have contributed to conserving resources by our development of a new catalyst for manufacturing high-strength polyethylene, which allows thinner packaging materials. New enzymes for chemical production save energy and reduce the environmental load of our plants. In a new approach to environmental preservation, we have also developed the bio-based polymer LACEA™ (polylactic acid).

Efforts for Development of Bio-based polymers: LACEA™

Polylactic acid is a bio-based polymer prepared from lactic acid. The starting material lactic acid is produced by fermenting starch and glucose from corns and potatoes or sucrose from sugar beets and sugarcane. Polylactic acid is produced by polymerizing the lactic acid.

Incinerating fossil-based polymers increases the amount of atmospheric carbon dioxide, because the carbon released is derived from carbon sources fixed under the ground in the remote past. In contrast, incinerating bio-based polymers does not increase the amount of atmospheric carbon dioxide, because the carbon released is derived from atmospheric carbon dioxide fixed by plants through the photosynthesis process. Mitsui Chemicals has been working to develop polylactic acid, prepared from renewable plants as a material of low environmental load that helps save fossil resources and reduce greenhouse gas emissions.

Life cycle of polylactic acid (PLA)



Challenges and Prospects for LACEA™

Polylactic acid is a thermoplastic resin of high transparency and high rigidity and is in increasing use in packaging containers. It's begun to investigate that "bio-based content" defined as a content by percentage of components derived from bio-based materials like polylactic acid in plastics or products is regarded as a scale to evaluate a reduction of environmental burden. By alloying bio-based materials and fossil-based materials, the properties of materials can be "tuned" to obtain desirable combinations of properties, which will enable wider applications of the upgraded materials. We will continue this very promising line of development on the basis of the concept of bio-based content and our unique resin technology. We want to expand the use of LACEA™ to such durable goods as office equipment, electrical appliances and automobiles.

There are three challenging issues in expanding this market. First, cost performance must be increased to the extent that makes bio-based polymers competitive against commodity polymers. Second, awareness of reducing environmental loads of materials based on bio-based polymers among business customers and consumers must be raised. Third, CO_2 emissions during manufacturing will have to be minimized, in accordance with legal and administrative regulations under the Kyoto Protocol. As a resin manufacturer, Mitsui Chemicals will conduct positive efforts to meet these requirements.

Nobuyuki Kawashima
Director
LACEA Department
Polymer Business
Development
Division

Developing a LACEA™ Market

Masashi Ushiroji
Manager
LACEA Department
Polymer Business
Development Division

We maintain a business tie-up with Cargill Dow LLC, which operates the world's largest manufacturing plant for polylactic acid; its manufacturing capacity is 140,000 tons. By developing technical services and material processing technology based on the resin supplied by the company, we support product development at molding companies that are our customers. To help general consumers get familiarized with polylactic acid, we are working to find new needs for polylactic acid by participating in various events such as music concerts and exhibitions, and introducing polylactic acid to manufacturers of finished products or retailers. We hope to expand our sales in the field of packaging containers, and to promote development of materials that can be used for durable goods. Polylactic acid is also known to be biodegradable. We will promote the development of new applications of LACEA™ that make use of features as a bio-based material.

LACEA™ is used in compact discs and various packaging materials such as bags, thermoformed containers and straps. In June 2004, the Japan Hygienic Olefin and

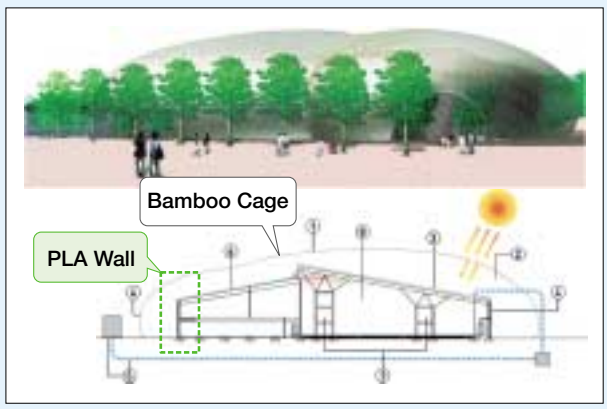
Products made of LACEA™

Styrene Plastics Association formulated voluntary standards for materials that can be used for food packaging containers. The standards are expected to facilitate the expansion of applications in that field.

You Can Find LACEA™ Used Here and There

Outer walls of the Japanese Government's Pavilion for The 2005 World Exposition, Aichi

At the sites of The 2005 World Exposition, Aichi, Japan, which will be held under the theme of "Nature's Wisdom", products of polylactic acid and other bio-based polymers will be used to introduce advanced technologies for recycling-oriented society. In addition to tableware, LACEA™ will be used to construct the outer walls of the Japanese Government's Pavilion which are expected to be durable.



Final Drawing of Japanese Government's Pavilion

Polylactic acid garbage bags

In Furano, Hokkaido and Kosaka, Akita Prefecture, garbage goes into compost processing. Bags of LACEA™, which is decomposed by microbial action into carbon dioxide and water, are used for packing the garbage.

LACEA™ garbage bags placed in a compost plant

Highlights

Efforts for Environmental Preservation and Dialogues with Local Communities at Our Works Straddling the Border between Two Prefectures

— Plant Tour and Opinion Exchange Meeting at Iwakuni-Ohtake Works

The Iwakuni-Ohtake Works is one of Mitsui Chemicals' domestic manufacturing sites. Straddling the border between Yamaguchi and Hiroshima Prefectures, it produces feedstocks for polyester fiber and PET bottles. On July 26, 2004, we held a plant tour and an opinion exchange meeting on our efforts for environmental load reductions. We invited a professor of Hiroshima University and local community residents of learning and experience and asked them to express frank opinions.

Various Efforts in the Iwakuni-Ohtake Works

1. Efforts for monitoring/measuring and reducing chemical substances

Checking plant operating status at instrumentation room

At our works, employees have free access to the information necessary for maintenance and improvement of operation of the chemical plants via PC terminals. Using this system, the operating status of each plant and weather data from meteorological instruments in the works can be monitored on a real time basis. Also accessible are environmental load reduction plans for individual sections of the works, databases on chemical substance discharges, and others.

We are working to reduce discharge of harmful substances by replacing conventional manufacturing processes and materials with newer ones that do not produce such substances, and by removing discharged substances using catalytic combustion and activated charcoal adsorption. As a result, the total discharge of substances specified by the PRTR Law decreased from about 1,800 tons in 1997 to 500 tons in 2003, and is expected to decrease to 200 tons in 2005.

Nitrogen and phosphorus in wastewater can cause red tides. We maintained concentrations of 1.4 ppm and 0.2 ppm of these, respectively, in effluents. These are much lower than the control levels of 120 ppm for nitrogen and 16 ppm for phosphorus.

2. Efforts at wastewater treatment facility

After activated sludge treatment

The aeration tank: Organic matter is oxygenated to speed decomposition by bacteria

Wastewater from the manufacturing processes is passed through an aeration tank, a sedimentation tank, and an activated sludge tank. In the aeration tank, the wastewater is aerated and agitated to put the microbes in contact with the materials they will consume. In the activated sludge tank, organic matter is decomposed by the action of bacteria that are provided with oxygen to BOD*1 and COD*2 levels about one-tenth those of untreated wastewater. The microorganisms are then precipitated in the sedimentation tank and removed. The resulting clean water effluent is discharged from a dedicated outlet into the sea after being confirmed as clearing the regulatory control levels.

Monitoring bacterial action

Checking analytical data on wastewater

Wastewater that requires a long time for treatment to decompose polymers and other substances is mixed with easily decomposable wastewater before it is transferred to the activated sludge tank. Other measures include extending aeration time. Additionally, we have installed a sludge wastewater storage tank for temporary storage of excess wastewater and high-concentration wastewater to ensure an even flow through the activated sludge processing system.

*1 BOD: Biochemical oxygen demand
Amount of oxygen consumed by aerobic microorganisms in water.

*2 COD: Chemical oxygen demand
Amount of oxygen consumed to oxidize organic matter in water with antioxidant.

3. Other efforts

Incineration products must also be reduced. Dust is processed into fuels at our cement plant and concrete rubble is crushed into fine aggregate for use in new construction work.

We monitor underground water from wells for contaminants from soil as part of our efforts to comply with ISO standards, though we are not focusing on particular contaminants.

Participants looking up at our incineration plant, an unusual sight

Dialogue with Stakeholders

We received many helpful comments from the participating stakeholders.

Mr. Yasuto Koshimizu
Chairman, Otake City Nishisakae 2-Chome Voluntary Disaster Prevention Association

Mr. Masayuki Kasai
Manager, Environment Division, Otake City Government

Professor Tamiji Yamamoto
Graduate School of Biosphere Sciences, Hiroshima University

Mr. Osamu Kawaguchi
Graduate School of Biosphere Sciences, Hiroshima University

Ms. Ryoko Sakai
Graduate School of Biosphere Sciences, Hiroshima University

Ms. Kyoko Oosawa
Graduate School of Biosphere Sciences, Hiroshima University

— Frank Opinions Expressed after the Plant Tour —

Yamamoto: I think the wastewater processed at your plants contains both substances that are easily decomposable and ones that are difficult to decompose. Please specify these substances, and is it possible to decompose them by extending aeration time?
Plant manager: In our manufacturing processes, large amounts of acetic compounds are produced as by-products of terephthalic

acid; these are easily decomposable. Also produced are aminophenols, which are difficult to decompose. The wastewater that contains difficult-to-decompose substances is diluted with other wastewater and pretreated with hydrogen peroxide, which breaks the substances down into easily decomposable forms. This augments the capability of our plant to treat the activated sludge. Additionally, we leave wastewater that contains difficult-to-decompose substances in the aeration tank for a longer time to facilitate decomposition.
Oosawa: Then, is it possible to recycle water in your plants?
Plant manager: We don't reuse wastewater since it would require a larger-scale treatment facility than the one we have now. It would take much more energy-intensive treatment methods to obtain water that is reusable.
Kasai: As an member of the regulatory body, I would like to know where your water discharge outlet for this works is. And how do you utilize seawater?
Plant manager: We discharge our wastewater to the Port of Iwakuni. We utilize seawater as a turbine coolant.
Kawaguchi: I appreciate your considerable efforts to reduce your environmental load, including reductions of CO_2 emissions and industrial waste volume. What are the actual benefits?
Plant manager: Our efforts regarding resource conservation have greatly increased production efficiency, so have reduced CO_2 emissions as a secondary benefit. We introduced low-energy machines, which gave us the same production with decreased electric charges. As for industrial waste, we are working to find its efficient use, for example, in cement feedstock and fuels, rather than simply burning it or dumping it into a landfill.
Sakai: I have been informed that a plant that is no longer used to produce a particular product is diverted to production of another product, provided that the two products share the same processes. Please describe how you utilize such equipment.
Plant manager: Some pieces of the equipment are refurbished, and others are used to produce different substances with modified workflows. We view plant recycling as a form of technical development.

— Maintain Dialogues with Local Residents —

Koshimizu: The neighborhood association of the Sakaemachi area has established a voluntary anti-disaster system to raise our own awareness of disaster prevention. In November 2003, a fire occurred in your works, and you notified the local anti-disaster department about this, but not the local residents. I believe you should immediately provide necessary information to neighboring residents simultaneously with ourdepartment. I hope you will work with local residents to prevent disasters.
Plant manager: An emergency manual is available at the Otake Area. We are required to notify all affected parties of any large problem that has happened. Unfortunately, however, we have not explained this fact to local residents, and we apologize to them for that. There are seven chemical complexes in this area, and all have formulated guides to PR activities in cooperation with each other. At our works, our disaster prevention rules prescribe that in the event of a disaster, we shouldspread the alarm to neighboring residents using automobiles with loudspeakers, as well as notifying the Otake City Fire Department.

— Communication with Local Communities Using RC Reports —

Yamamoto: In the Responsible Care Report, performance data are presented on a total basis and numerical data on individual works are obscure. I suggest you present environmental load data for each works.
Plant manager: I see. And we realize that there is room for improving our efforts, including site reports. We will work to enhance communication with our stakeholders and to contribute to regional development.

Opinions from Local Advisors

Mitsui Chemicals has established a "Local Advisor" system. With the enactment of the Law Concerning Reporting etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (PRTR Law) and the growing trends for information disclosure, we think local residents' opinions are an integral part of our efforts to make full disclosure of our corporate information to the general public, and to prevent misjudgment.

On June 30, 2004, we held a Local Advisor meeting at the Ohtake, Waki, and Iwakuni areas, with the attendance of 11 participants: the chairman of the union of the neighborhood associations of the areas adjoining to our works, the chairmen of the neighborhood associations, and employees of our company (including retired employees).

RC Management

Environmental Impacts of Mitsui Chemicals

In the New Medium-Term Plan starting in fiscal 2004, we instituted a shift from expansion of quantities manufactured to to quality of manufacture. Life in modern society would be impossible without chemical products; Mitsui Chemicals will maintain a global viewpoint as we continue our technical innovations.

INPUT-OUTPUT

Total fuel heat* (GJ) 81,433,000

* Purchased steam included.

Purchased electricity (GWh) 1,212

Total purchased gases (million Nm³) 343

Purchased raw materials (thousand tons) 5,110

Other purchased materials (thousand tons) 45

Drinking water and sewage water (million m³) 2
Underground water (million m³) 1
Industrial water (million m³) 102
Seawater (million m³) 428

Boilers (Electricity and steam)

Purchased electricity (GWh) 143

Purchased fuel for heating (GJ) 4,468,000

*Purchased steam included.

Manufacturing processes and others

Water management

Products
Quantity (thousand tons) 7,797

CO_2 (tons)	6,031,000
NOx (tons)	4,040
SOx (tons)	870
Hazardous air pollutants (tons)	117
VOCs* (tons)	6,542
Dust (tons)	285

*Hazardous air pollutants excluded.

COD (tons)	1,745
Total nitrogen (tons)	1,870
Total phosphorus (tons)	30

Water effluents (million m³) 523

To sea

External recycling (thousand tons)	45.3
Final disposal (landfill) (thousand tons)	41.8

■ Mitsui Chemicals' Business Fields

Plasma displays

Spectacle lenses

Diapers (non-woven fabrics)

Processors

Processors

Performance materials

Information and electronics materials

Healthcare materials

Jelly cups (TAFMER™)

Functional Polymers

Processors

Automobile seats (polyurethane)

Propylene chain

Aroma chain

Petrochemicals and basic chemicals

Processors

Processors

Clothing cases (polypropylene)

Daily supplies (polypropylene)

CDs (polycarbonate)

Fiscal 2003 Results and Fiscal 2004 Goals

For fiscal 2003 activities, goals and results are reported by RC item below. Also described are planned efforts for fiscal 2004.

Field	FY 2003	
	Strategic issues	Goals
Environmental preservation	· Elimination of environmental accidents	· Zero environmental accidents
	· Preventing and reducing air and water pollution	· Maintain and improve air and water quality in terms of SOx, COD and others
	· Preventing global warming	· Reduce energy unit consumption to 90% by fiscal 2010 compared to the fiscal 1990 level
	· Reducing PRTR Law-specified substances	· Reduce hazardous air pollutants (individual goals)
	· Reducing industrial waste discarded in landfills	· Reduce landfill disposal to 25,407 tons by fiscal 2004
	· Implementing risk communication	· Implement risk communication that earns social trust
Occupational Safety	· Zero labor accidents due to human error	· Zero labor accidents
	· Reducing risks by occupational safety and health management system (OHSAS 18001)	· Acquire OHSAS certification at all works
Occupational Health	· Continue promotion of mental health programs	· Decrease the number of days of lost-time mental symptoms (compared to the previous year)
	· Enhancing guidance for prevention of lifestyle-related diseases	· Decrease the morbidity (compared to the previous year)
	· Reducing health risks associated with hazardous factors at workplaces	· Decrease health risks (compared to the previous year)
Process Safety and Disaster Prevention	· Elimination of equipment accidents	· Zero equipment accidents
	· Identifying and eliminating hazards systematically	· Establish an inspection system and inspect three plants at each works
Safety for Customers and Consumers	· Enhancing efforts for product safety	· Verify product safety · Provide product safety information
Quality Management	· Enhancing efforts for prevention of PL-related accidents	· Zero PL-related accidents
	· Reducing claims and complaints	· Reduce claims by 30% compared to the previous year · Reduce complaints by 10% compared to the previous year
Logistics Safety	· Environmental preservation in logistics	· No logistics accidents
RC Activities at Subsidiaries and Affiliates	· Constructing RC promotion systems for subsidiaries and affiliates	· Ensuring performance of plan, do, check, and act (PDCA) procedures in RC activities at subsidiaries and affiliates
Legal Compliance	· Strict compliance with laws and regulations	· No violations of laws

Overview

In fiscal 2003, we experienced no accidents concerning environmental preservation, and risk communication programs, including this RC report, were implemented on schedule. Results were also good in occupational health and quality management programs; the days lost due to mental symptoms decreased and no PL related accidents occurred. Despite various measures, however, the number of labor accidents was similar to the fiscal 2002 level. In the process safety and disaster prevention sector, three equipment accidents occurred. Additionally, irregularities were discovered at the Osaka Works in safety inspections required under the Japanese High-Pressure Gas Safety Law. We took measures to enhance our legal compliance, including a re-organization of testing management.

With the fiscal 2003 results in mind, we will work to achieve further improvements in fiscal 2004.

Self-rating (percent performance): 95% or more, 70 to less than 95%, less than 70%

Results	Rating	FY 2004 efforts	Refer to
· No accidents occurred.		· Maintaining and improving environmental preservation management	
· Emissions of specified substances were well beneath the legal control levels and numerical targets specified by pollution prevention agreements with local governments.		· Maintaining and improving environmental preservation management · Implementing individual load reduction plans	23–25
· Energy unit consumption increased by 1.9% to 92.5% in fiscal 2003 compared to the fiscal 2002 level.		· Formulating greenhouse gas emissions reduction policy · Generating inventory, a program including subsidiaries and affiliates	24
· Goals were accomplished for 8 of the 10 substances covered.		· Formulating VOC emissions reduction policy and plan · Implementing individual load reduction plans	23–25
· Although landfill disposal amounted to 41,799 tons in fiscal 2003, a reduction of 6,238 tons compared to the previous year, it seems difficult to accomplish the goal.		· Reconsidering the industrial waste reduction plan · Implementing individual load reduction plans	
· The following activities were conducted: * RC Report was issued. * Public relations magazines were issued, local communication meetings were held, and plant tours were held at all domestic works. * Independent verification was conducted by JRCC (good results were obtained). * Participated in JRCC regional explanatory meetings (Iwakuni).		· Improving the contents of RC reports · Enhancing risk communication at works	13–14 43–44
· Seventeen labor accidents occurred (19 in fiscal 2002). Although regular safety dialogues were conducted with managers and vigorous safety activities appropriate for conditions at each plant were performed at all works, the total number of lost-time and non-lost-time injuries remained nearly the same as the previous year.		· Conducting labor accident factor analysis, including human factors, and taking anti-recurrence measures · Safety patrols, education and advice by external consultants · Reducing labor accident risks by complying with OHSAS 18001	26–28
· All but one works were certified. Safety and health risk assessments were completed. Risk reduction programs were implemented on schedule; the Osaka Works remains to be certified in fiscal 2004.			
· The number of days lost to mental symptoms decreased. Mental health education was provided and workplace stress tests were conducted.		· Fully implementing stress test feedback and establishing a training system	
· Morbidity decreased compared to the previous year. Morbidity decreased for GPT and (-GTP but increased for diabetes and obesity.		· Implementing systematic education for prevention of lifestyle-related diseases	
· Health risks were systematically assessed and reduced. Although a health risk reduction system was completed, there were significant differences in risk assessment criteria among business sites.		· Unifying health risk assessment criteria throughout the company · Providing support for construction of occupational health management systems at domestic subsidiaries and affiliates	
· Three equipment accidents occurred (0 in fiscal 2002). The ceiling panel of the ammonia plant absorbent storage tank wasdamaged and fires occurred at a synthetic oil plant and an alkyl aluminum filling station.		· Re-inspections and remedial measures for safety technology · Enhancing human resources development for safety technology (Increasing the number of contract researchers sent to safety engineering university and fostering workplace safety engineers) · Re-organizing the safety engineering system	29–30
· An inspection system was established and at least three plants were inspected at each works. An inspection system for static electricity, explosive air-chemical mixtures, toxic gases, blending reaction hazards, etc. was established and inspected.			
· Safety assessments were secured during development of new products. Risk assessments of new products were conducted before their launches.		· Constructing a database for safety data to support RC activities · Establishing legal compliance system for export products · Enhancing efforts for high production volume (HPV) chemicals	31–32
· No PL-related accidents occurred. PL audits were performed on schedule. There were some items for which the percentage of employees involved in educational programs concerning PL and quality management was under the target. Insufficient contracts have been signed.		· Continuing to provide PL and quality management education · Actions based on “4M” inspection and PL influence ratings	33
· Claims decreased by 5% and complaints decreased by 5%. Audit was completed on 95% of contractors (cumulative figure for fiscal 2001-2003) and a factorial analysis was performed using dendrograms. However, the incidence at the logistic stage did not decrease.		· Onsite guidance for manufacturing and logistics contractors according to product applications and quality performance	
· Three logistics accidents occurred. When the accidents occurred, the emergency contact network and the assistance system operated properly.		· Constructing a logistics safety management system (Enhancing analysis of internal and external logistics accidents and taking immediate action)	34
· A system is available to let the PDCA cycle work well at contractors. Environmental safety audits for 22 companies, quality audits for 23 companies, were carried out.		· Clarifying RC levels and enhancing audits for subsidiaries and affiliates (Environmental safety audits for 23 companies, quality audits for 22 companies)	40–42
· Irregularities in autonomous inspections for safety practices according to the High-Pressure Gas Safety Law were discovered at the Osaka Works. The auditing system was revised to guard against these failures.		· Enhancing legal compliance concerning the three safety laws (High-Pressure Gas Safety Law, Fire Services Law, Industrial Safety and Health Law) (Implementing legal compliance audits by the head office auditing group, etc.) · Revision of legal compliance education, ensuring implementation · Establishing a regulatory information system and intra-network	29, 39

RC Management

Mitsui Chemicals is implementing company-wide RC initiatives for harmonization with the global environment, as advocated in its Corporate Mission. We are working to secure facility safety, product safety, and employees' safety and health, and to reduce our environmental load. We can meet these goals by managing risks based on accurate and complete information.

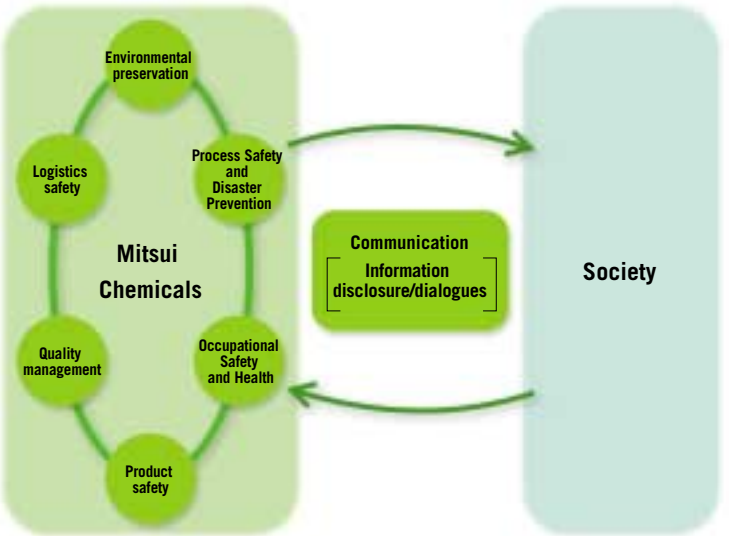
RC Management System

RC is an integral part of our business philosophy and corporate mission. We have linked RC with other objectives in a unified management system.

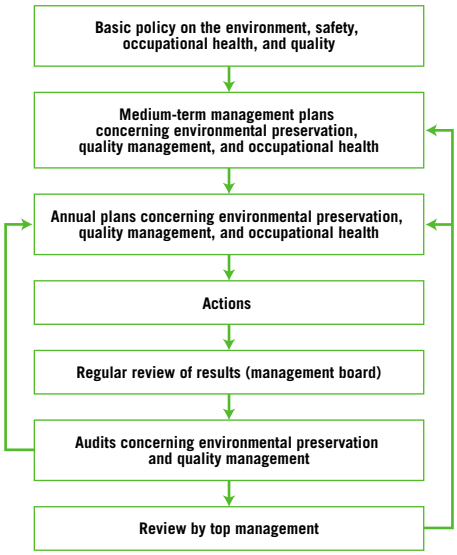
We promote RC activities in many areas: environmental preservation; process safety and disaster prevention; occupational safety and health; product safety; quality management; logistics safety; and social communication. We are working to comply with legal regulations, aggressively reduce potential risks, and disclose related information by constructing a management system integrating an environmental management system (ISO 14001), a quality management system (ISO 9001: 2000) and an occupational safety and health management system (OHSAS 18001). We are working to achieve sustainable development by operating this management system in combination with our corporate governance.

We will promote RC activities throughout the Mitsui Chemicals Group by enacting the "plan, do, check, and act" (PDCA) cycle of the RC management system in-house and encouraging our subsidiaries and affiliates to do the same. Our goals are to maximize social contributions and minimize potential risks.

Relationship between Mitsui Chemicals' RC management system and society



Flow chart of the RC management system



RC Promotion System

We promote RC activities under the supervision of the RC Committee, which is chaired by the president and comprised of Management Committee members. The structure emphasizes EHS service and quality management, overseen, respectively, by the EHS Subcommittee and the Quality Management Subcommittee under competent directors. Administrators of RC promotion (general managers) lead the activities in each department.

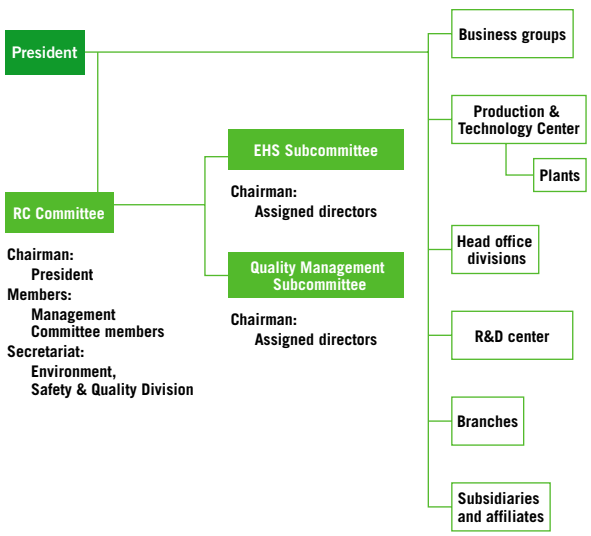
RC Committee

1. Previous year's RC performance and RC audit results
2. Coming year's annual RC plan
3. Other important matters, including reviews of the RC system

EHS Subcommittee / Quality Management Subcommittee

These subcommittees review and draw up annual plans for the coming year based on the previous year's RC performance and RC audit results for relevant areas and submit them to the RC Committee.

RC Promotion Chart



Acquiring International Standard Certifications

Mitsui Chemicals acquired certification under international standards for some RC implementation items, i.e., environmental preservation, occupational safety and health, and quality management. All works were certified for ISO 9001, and the following two international standards by fiscal 2003. The Ichihara Works Mobara Center (certified as supplementary to the already obtained certification for the Ichihara Works), the Osaka Works, and the Omuta Works, acquired ISO 14001 certification in fiscal 2001, the Iwakuni-Ohtake Works, in fiscal 2002, and the Nagoya Works, in fiscal 2004. The Nagoya Works and the Ichihara Works Mobara Center were certified under OHSAS 18001 in fiscal 2002, the Omuta Works and the Iwakuni-Ohtake Works, in fiscal 2003, and the Osaka Works, in fiscal 2004.

Acquired international certifications

Works	Certification	Date of acquisition
Ichihara Works Mobara Center	ISO14001	03/22/2002
	OHSAS18001	03/19/2003
Nagoya Works	ISO14001	09/22/2004
	OHSAS18001	06/24/2002
Osaka Works	ISO14001	03/25/2002
	OHSAS18001	06/21/2004
Iwakuni-Ohtake Works	ISO14001	04/26/2002
	OHSAS18001	02/23/2004
Omuta Works	ISO14001	03/20/2002
	OHSAS18001	10/14/2003

Implementing Internal Audit

The internal RC audit consists of EHS and quality audits. Individual works (including subsidiaries and affiliates on their premises) and laboratories are audited for the accomplishment of respective annual goals as directed in the audit rules.

The director, the managers of relevant departments, and other internal RC authorities conduct the internal RC audit at least once every year. Individual business groups are also audited, independently or in cooperation with RC competent departments, as necessary.

In fiscal 2003, we instituted an auditing program for legal compliance, based on what we had learned from problems discovered in autonomous inspections for safety practices according to the High-Pressure Gas Safety Law. Additionally, audits, hearings and opinion exchange meetings by RC personnel are conducted in order to reflect onsite workers' opinions in next-term budgets and annual plans.

RC audit suggestions by site

Works	Item	Suggestions
Ichihara Works	Key issues	· Keep up the good work of safety dialogues with new efforts, such as expanding the scope of the dialogues.
	Legal compliance	· Designate a manager for the high-pressure gas "Master Management Criteria for Autonomous Inspections for Safety Practices." · Systematically and repeatedly conduct legal compliance education, with testing to confirm the benefits of the training.
Nagoya Works	Key issues	· Some of your operations involve direct exposure to rotating equipment, subject to obtaining permission from supervisors. Take drastic measures to obviate such operations. · Continue efforts for compliance with basic rules and keep up the good work of safety diagnosis by outside experts.
	Legal compliance	· Your legal compliance education programs are weak. Reconsider their contents, methodology, etc.
Osaka Works	Key issues	· Although you conducted inspections concerning static electricity in the past, the fact that you had a synthetic oil fire suggests that you should re-inspect relevant equipment.
	Legal compliance	· The operation flow for minor repair work on equipment is unclear. This should be spelled out better.
Iwakuni-Ohtake Works	Key issues	· Discuss issues based on what you have learned from past accidents in and outside the company, and make due improvements. · Safety dialogues in your plant are effective in preventing human errors and improving workplace culture. Keep up the good work.
	Legal compliance	· Improve audits for compliance with laws other than the three safety-related laws. · Your legal compliance education programs are weak. Reconsider their contents, methodology, etc.
Omuta Works	Key issues	· Be sure to carry out plan, do, check, and act (PDCA) procedures in order to allow the efficient operation of ISO and OHSAS management tools.
	Legal compliance	· Legal compliance education programs are implemented at individual workplaces but lack consistency. Systematize your efforts throughout the works. · Differentiate between legal management and self-management in equipment inspections at manufacturing facilities.
Sodegaura Center	Key issues	· Many rules and procedures were formulated at the time the Sodegaura Center was founded. Check them for relevance to your current situation and take any necessary actions. · Clarify responsibilities and competence concerning the safety system of the plant research department.

Comment from the Senior Director

We have been conducting concerted efforts for RC under annual plans based on our priorities of the environment, safety and quality. Although we have been achieving steady results, further efforts will be necessary to accomplish our goals.

Recently, the scope of RC activities has been expanding on a global scale, as society's need for those activities grows. We must account for these dramatic changes as we conduct more proactive RC activities and improve communication with the general public. We will make efforts to to provide more easily understandable information on our RC efforts and our results.

Akira Shimada
General Manager, Environment, Safety & Quality Division

Analysis and Assessment of Environmental Impacts

Mitsui Chemicals hs used eco-efficiency as the indicator of a good balance between economic benefit and environmental load; this indicator has allowed us to maintain a steady record of results in our efforts for sustainable development.

We will continue increasing the eco-efficiency of our business activities, with the goal of making a comprehensive contribution to environmental preservation.

Assessing Environmental Impact Using Eco-efficiency

The term eco-efficiency is defined as the ratio obtained by dividing the value of a product or service by its environmental impact. We use eco-efficiency to assess the balance between environmental preservation and economy in our business activities as a whole.

First, all forms of environmental load must be unified, i.e., defined in exactly the same way. Weighting coefficients must be determined for individual factors. To this end, we have been using our own weighting coefficients determined with the panel method developed by Professor Nagata of Waseda University.

Impact categories and environmental impact indices

Impact category	Weighting coefficient
Energy source depletion	Low calorific value /years of availability (crude oil = 1)
Global warming	Global warming coefficient (CO_2 = 1)
Ozone layer destruction	Ozone layer destruction coefficient (CFC-11 = 1)
Acid rain	Acidification potential (SOx = 1)
Resource consumption	1/years of resource availability
Air pollution	1/environmental standard
Marine and water pollution	1/environmental standard
Waste treatment	1 (converted to weight)
Influence on ecosystem	Marine toxicity factor (Cr = 1)

Example calculation of unified values of environmental load and eco-efficiency

Individual item	Unification coefficient	Fiscal 1997		Fiscal 2003	
		Actual value (tons)	Unified value (x 10^3)	Actual value (tons)	Unified value (x 10^3)
CO_2	1	6,632,875	6,633	6,012,197	6,012
NOx	805	4,203	3,384	4,040	3,252
SOx	856	1,079	924	870	745
Priority substances	478	648	310	117	56
Non-methane VOCs	239	20,478	4,894	6,204	1,483
Dust	321	381	122	285	91
COD	600	2,537	1,522	1,745	1,047
Nitrogen	600	5,608	3,365	1,870	1,122
Phosphorus	600	73	44	30	18
Waste	3	75,341	234	60,828	189
Total unified value (A)			**21,432**		**14,015**
Sales of Mitsui Chemicals alone (¥billion) (B)			7,063		7,184
Environmental efficiency index (B)/(A) x 10^{-6}			330		513
Eco-efficiency indicator			**100**		**156**

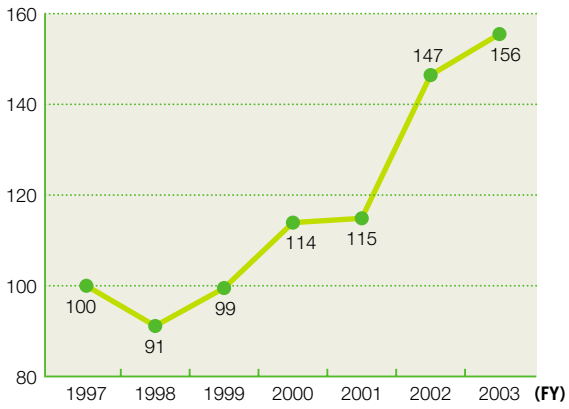
The unified coefficients were obtained by averaging the coefficients for Japan proposed by Japan's LCA experts, environment experts, and corporate experts, on the basis of the panel method of Professor Nagata of Waseda University, with the coefficient for CO_2 as 1.

Eco-Efficiency Evaluation for the Entire Company

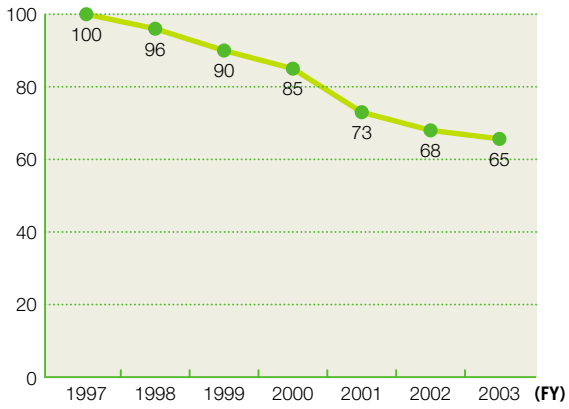
The eco-efficiency of the business activities of Mitsui Chemicals as a whole was calculated by dividing the non-consolidated net sales (numerator) by the unified environmental load (denominator). Compared to the fiscal 1997 figure (100), the eco-efficiency indicator improved steadily to 156 in fiscal 2003. This indicates that the eco-efficiency of our business activities increased by about 50% over the past five years. The changes over time since fiscal 1997 (100), it is evident that the unified environmental load indicator decreased every year.

We will work to reduce our environmental load by manufacturing more valuable products through processes with less environmental impact using the eco-efficiency indicator.

Changes in eco-efficiency indicator (FY 1997 level = 100)



Changes in environmental load unification indicator (FY 1997 level = 100)



Environmental Accounting

Mitsui Chemicals has made significant investments in RC activities, including environmental preservation and occupational safety and health. This years' report presents environmental accounting data on our investments and actual expenses for environmental preservation, and our investments in occupational safety, disaster prevention, and health.

Scope

Mitsui Chemicals' works and subsidiaries and affiliates on their premises

Period

Fiscal 2003 (from April 2003 to March 2004)

Accounting Methods

The environmental costs were calculated according to the "Environmental Accounting Guideline 2002" of Japan's Ministry of the Environment. The investments in measures concerning occupational safety, disaster prevention, and health were calculated using our internal classification system.

Fiscal 2003 Results

The investments in environmental preservation amounted to approximately 2.0 billion yen and the expenses amounted to approximately 16.3 billion yen. The investments were spent to take measures against hydrocarbons released into the atmosphere, to remove nitrogen in wastewater, to take actions against offensive odors, to reduce wastewater sludge, and to restore normal conditions after environmental damage at the Nagoya Works. The economic benefit of our environmental preservation activities amounted to approximately 5.0 billion yen. The investments in measures concerning occupational safety, disaster prevention, and health amounted to approximately 800 million yen, spent mainly to improve equipment to prevent fires, explosions, and labor accidents.

Environmental preservation costs

(100 million yen)

	Classification	Major efforts	Investments	Expenses
1	Environmental preservation costs to reduce the environmental load of production and service activities in the business area (within-business-area costs)		**10**	**110**
	1-1) Cost of preventing pollution	Measures against hydrocarbons released into the atmosphere, removal of nitrogen from wastewater, measures against offensive odors, wastewater sludge reductions, etc.	(9)	(94)
	1-2) Cost of preserving the global environment	Energy conservation equipment	(0)	(0)
	1-3) Cost of recycling resources	Waste plastic recycling	(1)	(16)
2	Costs to reduce the environmental loads occurring upstream or downstream of production and service activities (upstream/downstream costs)		–	–
3	Environmental preservation costs associated with management actions (management activity costs)	Introduction of environmental management systems, employee education, etc.	**0**	**7**
4	Environmental preservation costs associated with research and development activities (R&D costs)	Development of products and processes for environmental load reductions, etc.	**0**	**32**
5	Environmental preservation costs associated with social activities (social activity costs)	Money reserved for combating pollution, for greening, etc.	**0**	**4**
6	Costs related to environmental damage (environmental damage costs)	Environmental pollution surveys (Nagoya Works), remediation, etc.	**10**	**10**
	Total		**20**	**163**

Investments concerning occupational safety, disaster prevention, and health

(100 million yen)

	Classification	
1	Measures against explosions, fires, and spills	**2**
2	Measures against equipment deterioration over time	**4**
3	Measures to improve occupational safety and workplace environment	**2**
4	Measures against natural disasters such as earthquakes	**0**
5	Others	**0**
	Total	**8**

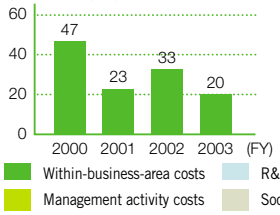
Economic effects of environmental protection measures

(100 million yen)

	Classification	Major efforts	Monetary effect
1	Income from recycling	Resource recovery and waste recycling	**3**
2	Income from energy conservation	Energy conservation	**47**
3	Income from resource conservation	Improvement in specific energy consumption unit for raw materials	
	Total		**50**

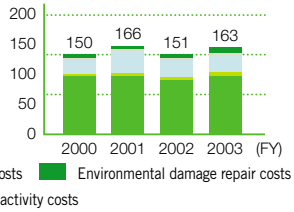
Changes in investments in environmental preservation

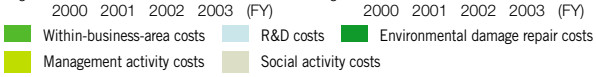
(100 million yen)



Changes in environmental preservation costs

(100 million yen)





Major Environmental Improvement Projects

The following are major environmental improvement projects we have already conducted, or will conduct, in our works, with equipment investments from fiscal 2003 to 2005.

Major environmental improvement projects

(100 million yen)

Category	Project title	Works	Equipment operation status	Investments (¥100 million)	Description	Benefit
Discharge volume reductions	Measures to reduce hydrocarbons leased into the atmosphere	Ichihara Works	In operation	1.9	Installing exhaust gas catalytic combustion equipment etc.	Hydrocarbons reduced by 660 tons
		Ichihara Works	In operation	0.8		Hydrocarbons reduced by 420 tons
	Measures to reduce toluene etc. released into the atmosphere	Nagoya Works	In operation	0.2	Installing solvent recovery equipment	Toluene discharge concentration reduced to one-three-hundredth of previous level
	Measures against soot emissions	Nagoya Works	In operation	0.0	Piping modification work	Acrylonitrile discharge concentration reduced to one-sixth of previous level
	Measures against ammonia odor	Osaka Works	In operation	0.4	Installing ammonia absorption equipment	Ammonia odor was mitigated
	Measures against acetic acid odor	Iwakuni-Ohtake Works	In operation	1.0	Installing acetic acid removal equipment	Acetic acid odor was mitigated
	Reduction of VOCs in exhaust gas	Iwakuni-Ohtake Works	Scheduled to go into operation in May 2005	8.3	Installing exhaust gas catalytic combustion equipment etc.	VOCs in exhaust gas reduced (work ongoing)
	Measures against offensive odors	Iwakuni-Ohtake Works	Scheduled to go into operation in June 2005	0.8	Installing exhaust gas catalytic combustion equipment etc.	Offensive odors mitigated (work ongoing)
	Reduction of wastewater sludge	Omuta Works	In operation	0.7	Replacing sludge processing equipment	Wastewater sludge reduced by 5,880 tons
	Wastewater color improvement	Omuta Works	Scheduled to go into operation in April 2005	7.1	Installing wastewater bleaching equipment	Released wastewater color improved (work ongoing)
Recycling	Waste recycling	Ichihara Works	In operation	0.1	Furnish equipment for sorted collection	150 tons of waste plastics and 340 tons of garbage recycled in a year
	Reduction of waste resins	Iwakuni-Ohtake Works	In operation	0.2	Installing waste plastic recovery equipment in the manufacturing	250 tons of waste plastics recycled in a year
	Promotion of efficient use of waste catalysts	Iwakuni-Ohtake Works	In operation	0.5	Enhancing waste catalyst recovery equipment	370 tons of industrial waste eliminated in a year
Monitoring enhancement	Stricter monitoring of wastewater nitrogen and phosphorus concentrations	Nagoya Works	In operation	0.1	Installing continuous analyzers	Stricter monitoring of wastewater nitrogen and phosphorus concentrations
		Iwakuni-Ohtake Works	In operation	0.3		
Repair	Survey and arrangement of chloride manufacturing plant site	Nagoya Works	In operation	1.5	Pumping up underground water and ground leveling	Spread of underground water pollution prevented

RC Performance

Commitment to Environmental Preservation

The Mitsui Chemicals Group is working to preserve the environment in two ways: reduction of the environmental load of our business activities, and appropriate management of chemical substances. We will continue proactive efforts to preserve the global environment.

Control and Reduction of Chemical Substances

Risk Management for Air Pollutants

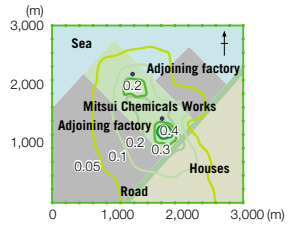
Mitsui Chemicals produced our *Guideline for Voluntary Actions to Reduce Air Pollution Loads* as instructions to our employees about how to manage the risks imposed by chemical substances. We are also working to promote risk communication with local residents. The first step in managing a pollutant is to estimate its dispersion in the atmosphere after discharge. The annual mean concentration of the substance at the works boundary is estimated, taking account of the wind direction and other factors. Necessary adjustments are made to maintain the concentration below the maximum allowance for human health.

We will place first priority on the health of local residents. We will promote reductions of discharges of chemical substances and management of chemical substances discharged into air by assessing the risk to human health of the estimated concentration .

Example calculation of atmospheric dispersion of substances discharged into air

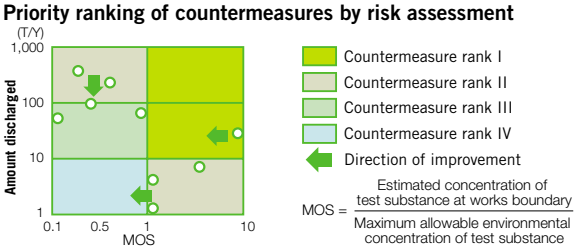
- Risks estimated for individual substances from weather conditions and other factors -

Annual mean concentration contours



<Results for Substance A>
1. Calculation formula
   The METI-LIS formula used
2. Weather conditions
   2002 AMEDAS data
3. Annual mean maximum concentration at works boundary = 0.3 ppb
4. Maximum allowable environmental concentration of substance A = 0.25 ppb
5. MDS = 1.2

Priority ranking of countermeasures by risk assessment



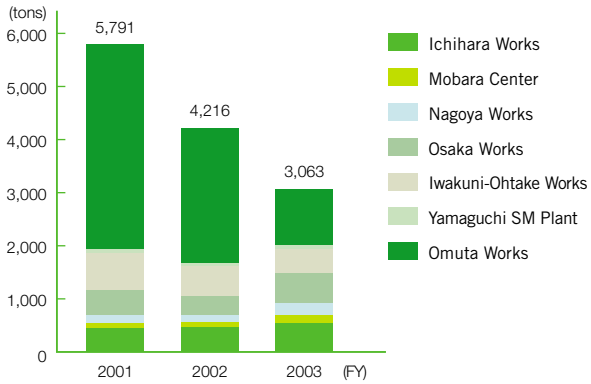
$$\text{MOS} = \frac{\text{Estimated concentration of test substance at works boundary}}{\text{Maximum allowable environmental concentration of test substance}}$$

Efforts to Comply with the PRTR Law and to Reduce Hazardous Air Pollutants

In June 2002, it became mandatory to notify the national government of the handling of all chemical substances designated under "the Law Concerning Reporting etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (PRTR Law)" (for PRTR data on each of our plants, refer to page 49). We have steadily reduced the release of designated chemical substances to the environment over the last three years; the total amount released fell by 47% in fiscal 2003 compared to fiscal 2001.

We presently use ten substances out of the pollutants designated as high health risks in the Air Pollution Prevention Law; we have made strong efforts to reduce their use in line with the voluntary guidelines. We have succeeded in lowering the risk level to below or slightly above the numerical target for all target substances but dichloromethane. We will take further measures to reduce dichloromethane below the target.

Changes in discharge amounts and transfer amounts of chemical substances designated in the PRTR Law



Regarding Soil and Underground Water Pollution at the Nagoya Works

At the Nagoya Works, a voluntary survey on soil and underground water pollution was conducted, and soil and underground water pollution with volatile organic compounds (VOC) was discovered in some portions of the premises. The survey was continued to clarify the status of pollution. and measures were taken to prevent spread of the pollution by pumping up water and to decontaminate the soil and water. On January 20, 2004, a survey report was submitted to the Nagoya City government and made available to the general public.

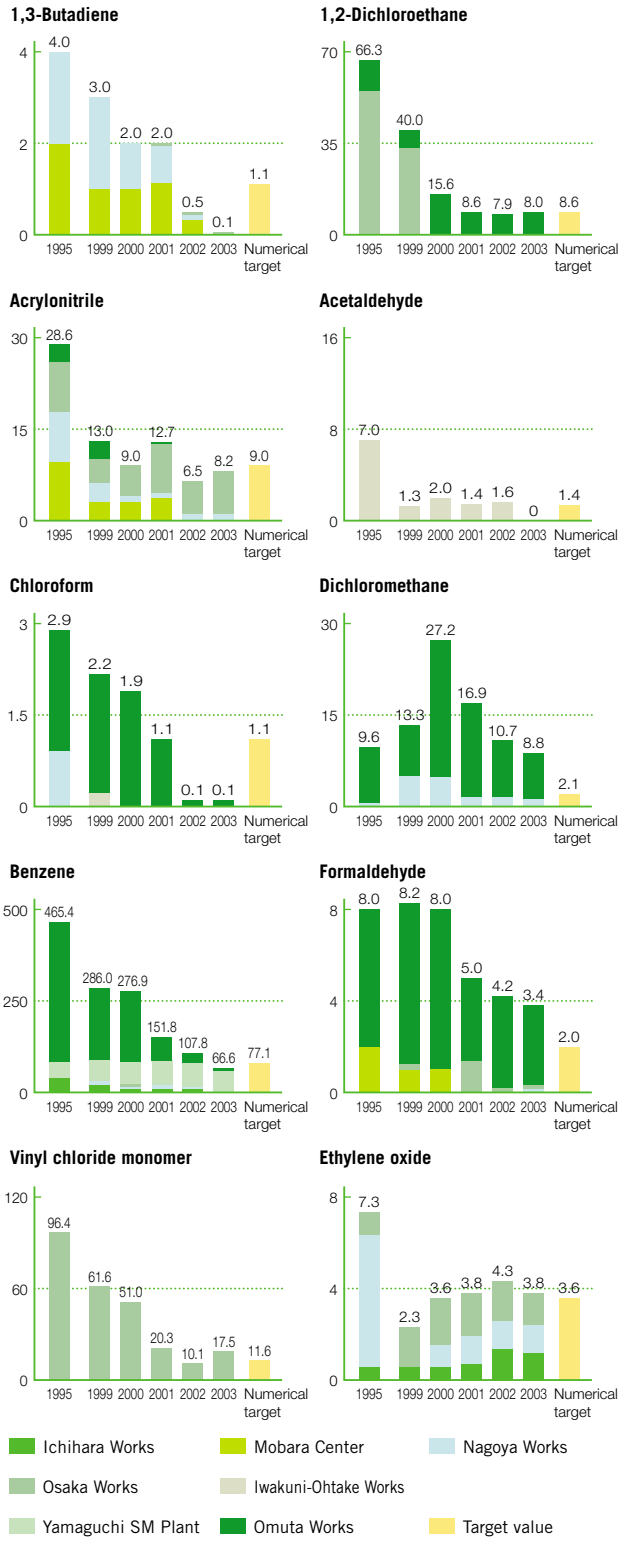
We examined the history of land utilization at the Nagoya Works. Wells were sunk in the vicinities of potentially contaminated locations and underground water samples were taken. For the areas found to have polluted underground water, soil surveys were conducted to identify the cause of pollution.

Regarding the underground water in the works' border areas, dichloromethane was detected at levels up to 16 times the maximum allowed at some points, though its levels were beneath the limit at the majority oflocations. In the underground water within the plants' borders, 1,2-dichloroethane was detected at levels up to 350 times the regulatory control level. Soil within the plants' borders was also found to be nearly as polluted as the underground water. However, a survey on atmospheric VOCs in the works' border areas revealed their levels beneath the regulatory control level at all sampling locations. Although historical data and other information were reviewed, the causes of pollution could not be identified. We suppose that the pollution was caused by material leaks during plant operations in the past.

With these results in mind, we have been pumping up underground water to decontaminate it and to prevent spread of the pollution. As a result, the VOC concentrations decreased to one-fifth to one-twelfth the previous levels; the underground water pollution was mitigated and the clean-up was concluded to be effective. To help neighboring residents to understand the situation, we took various measures, including door-to-door visits to provide necessary information, explanatory meetings and onsite tours for neighborhood associations, and distribution of the public relations magazine of our Works.

We will continue and upgrade the groundwater pumping programs, and hold progress report meetings for neighboring residents at appropriate times.

Atmospheric emissions of hazardous air pollutants (tons/year)

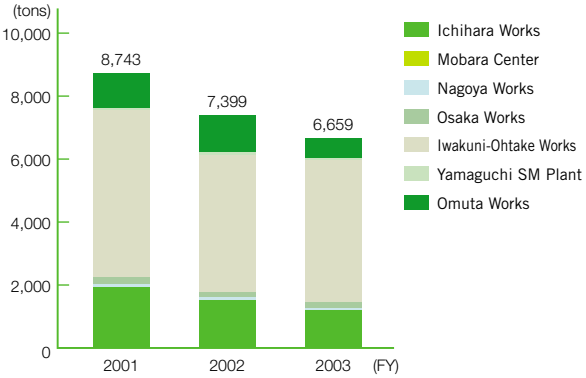


VOC Reductions

Volatile organic compounds (VOC) can decay to photochemical oxidants as they undergo photochemical reactions with atmospheric nitrogen oxides under sunlight. In May 2004, the Air Pollution Prevention Law was amended to implement regulations concerning VOC emissions. The Japanese government has set a numerical goal of reducing VOC emissions by 30% compared to fiscal 2000 (a calculation based on stationary sources) by the end of fiscal 2010.

We voluntarily reduced emissions of hazardous air pollutants, substances specified by the PRTR Law and hydrocarbons. As a result, VOC emissions were reduced by 24% in fiscal 2003 compared to fiscal 2001. We will work to achieve further reductions.

Release of volatile organic compounds (VOCs) to the atmosphere



* This graph shows data on the total amount of organic compounds specified as subjects of PRTR surveys by the Japan Chemical Industry Association, and on some other substances. These are believed to be nearly all the VOCs released in the atmosphere.

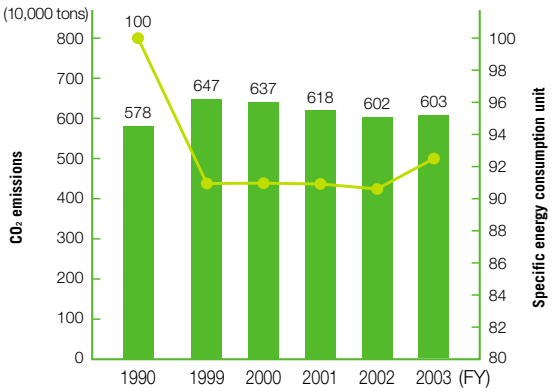
Efforts to Prevent Global Warming

Since the 1990s, the Mitsui Chemicals Group has been working to reduce CO_2 emissions to do our part in preserving the global environment. Energy consumption accounts for 90% of the CO_2 emissions resulting from our business activities.

CO_2 emissions amounted to 6.03 million tons in fiscal 2003, almost unchanged from the fiscal 2002 level of 6.02 million tons. However, energy unit consumption increased to 92.5% in fiscal 2003 compared to the fiscal 2002 level of 90.6%, which looks like a reversal in our progress toward the chemical industry's goal of reducing fiscal 2010 energy unit consumption to 90% of the fiscal 1990 level. However, this was because the operating rate for the Osaka Works had intentionally been decreased from January to July 2003 as a measure against a failure in some of its equipment. The problems have been remedied, so the fiscal 2004 level is expected to be better than the fiscal 2002 level.

We will continue making all-out efforts to conserve energy and reduce the emissions to the 1990 level by fiscal 2010.

Changes in CO_2 emissions and specific energy consumption unit



* The figures for CO_2 emissions were obtained by totaling energy-related emissions (fuels and purchase of electricity), process-related emissions, and waste-related emissions. The figures for specific energy consumption unit were obtained using just energy-related emissions.

Efforts for Waste Reduction

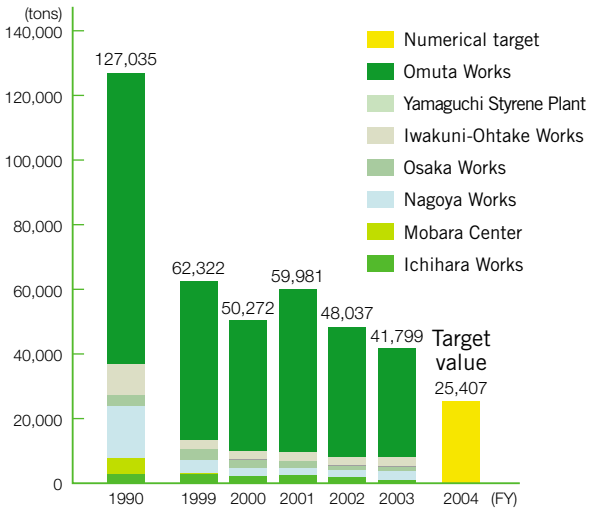
The Mitsui Chemicals Group has been working to reduce industrial waste as part of the group's efforts to create a recycling-oriented society. We have been striving to reduce the amount of industrial waste going into landfill disposal with the numerical target of an 80% reduction in landfill disposal volume by fiscal 2004, compared to the fiscal 1990 level.

The final landfill disposal volume in fiscal 2003 was 60,828 tons. This consisted of 19,029 tons of newly produced forms of waste, such as company house demolition work waste, other than process-related waste, and 41,799 tons of process-related waste (relevant to the 2004 numerical target). This was a reduction of 6,238 tons compared to the fiscal 2002 level.

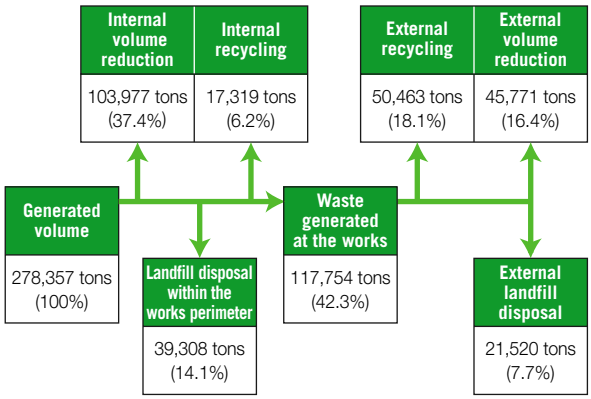
The Omuta Works has an officially approved controlled landfill site, so disposal there accounts for the greatest percentage of the total landfill disposal volume among all of our works. For this reason, we worked to reduce the amount of sludge produced in the wastewater treatment process in fiscal 2003; we achieved a cut of 4,500 tons.

Although the current situation makes it look difficult to clear the fiscal 2004 target of 25,407 tons, we will continue striving to reduce industrial waste.

Changes in final landfill disposal volume of industrial waste



Waste disposal status



Internal volume reduction: Volume reduced as a result of waste plastic incineration and waste acid neutralization.

Internal and external recycling: Waste plastic recycling and the fuel use of waste oil are included.

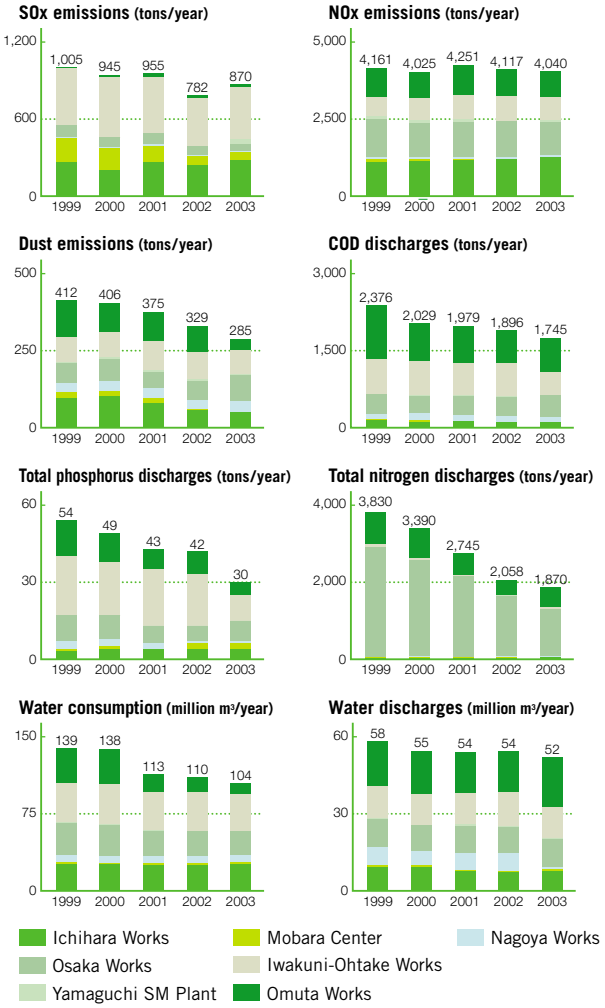
Generated volume: Sum of sludge (dehydrated), waste plastics, dust, etc.

Landfill disposal at the works: All treated at the controlled landfill site of the Omuta Works.

Efforts to Reduce Atmospheric Emissions of Hazardous Air Pollutants and to Prevent Water Pollution

The Mitsui Chemicals Group has been striving to reduce the atmospheric emissions of hazardous air pollutants such as SOx, NOx and dust, and to reduce the discharge of water pollutants such as COD, nitrogen and phosphorus. As a result, we are well beneath the legal regulatory control levels. We will maintain these lower levels.

Environmental loads on the atmosphere and water



Comments from Director

Since I was assigned to my present position, I have often conversed with administrative officers such as those of Japan's Ministry of Economy, Trade and Industry, university teachers, persons in charge of environmental preservation and safety at chemical companies and industrial associations, our suppliers, and NGO workers. Their high level of knowledge and technology and their great confidence and will is always a great motivation to us to enhance our efforts for environmental preservation. We appreciate everyone's input and will use it to make fine adjustments to the charts and compass of the S.S. Mitsui.

Hiroyuki Ito

Environment, Safety & Quality Division

Commitment to Occupational Safety and Health

The Mitsui Chemicals Group gives top priority to occupational safety and health. We are in a continual process to develop appropriate work environments and support our employees' voluntary activities to stay healthy.

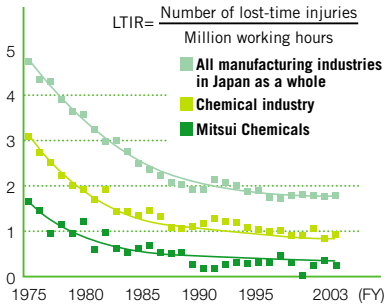
Occupational Safety and Health Management System (OHSAS 18001)

The number of labor accidents is approaching a minimum in the chemical industry and in all manufacturing industries as a whole. This is also true for Mitsui Chemicals.

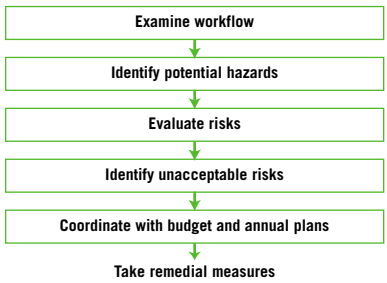
At Mitsui Chemicals, we are working to prevent accidents by reviewing our safety activities, identifying workplace hazards and evaluating risks to reduce the likelihood of accidents from the hazards. In fiscal 2001, we began to seek certification under OHSAS 18001, an international standard for occupational safety and health; all of our plants were certified by June 2004.

In OHSAS 18001 activities, the risk assessment process summarized in the figure on the right is of paramount importance. All employees are required to examine the workflow for hazardous work situations, identify potential hazards, evaluate the degree and likelihood of risks, and plan and implement remedial measures. In risk assessment, two factors are believed to be the most important in determining risk levels: magnitude of damage (severity of injury) and probability of damage (likelihood of suffering). Measures to reduce the risk levels are taken with priority given to higher risks. This raises employees' awareness of occupational safety and creates a safe workplace environment and culture.

Changes in lost-time injury rate (LTIR)



OHSAS 18001 risk management procedure



Commitment to Occupational Safety

As labor accidents are often caused by human error, we conducted the following safety activities to raise employees' awareness of safety and improve risk responsiveness at our works.

① Safety dialogues with managers of plants at all levels of the company

② Thorough safety training appropriate for the conditions in each plant

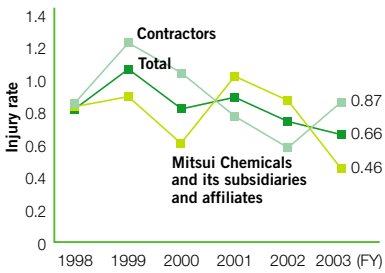
Clarification of borders of professional responsibility with contractors, workplace patrols by teams of managers of each plant, independent safety diagnoses by onsite workers, independent safety activities by contractors, etc.

③ Safety lectures concerning unsafe behavior

Although we worked systematically to reduce dangers from equipment and during operations by acquiring OHSAS 18001 certification at each plant, 17 labor accidents occurred in fiscal 2003, a similar level to the previous year.

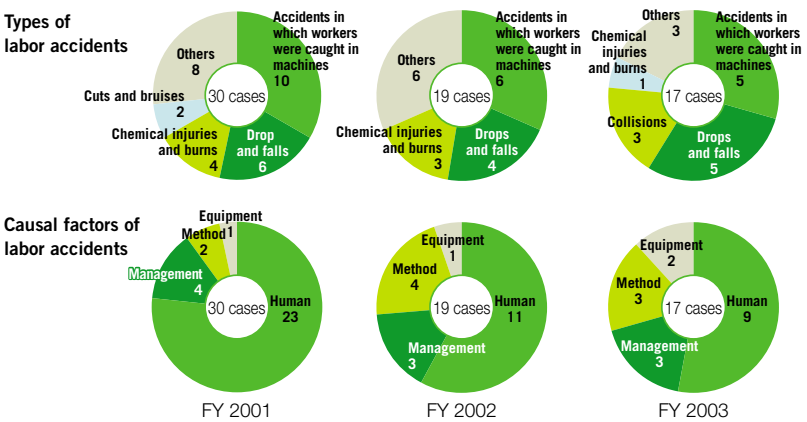
We will conduct risk evaluations and revise tasks as appropriate to the actual conditions in each workplace, perform labor accident factor analysis, including human factors, take measures against recurrence of accidents, and conduct safety activities such as safety patrols, training and guidance by external consultants. We will also extend our application of themethods of OHSAS 18001. We will ensure that all of the Mitsui Chemicals Group companies are fully informed of accident information and make use of the information provided, by implementing appropriate injury rate management for labor accidents, including both lost-time injuries and non-lost-time injuries (lost-time injury rate + non-lost-time injury rate), and developing a labor accident database for sharing by all of the group companies.

Changes in injury rate (lost-time injuries + non-lost-time injuries)



Types and causal factors of labor accidents

* These figures include lost-time injuries, non-lost-time injuries and contractors.



Commitment to Occupational Health

Our philosophy in implementing our health measures is that "Employees' health is linked directly to corporate soundness" (Occupational Health Rules). We have health management offices at the head office, Sodegaura Center, and all five works, where exclusively contracted industrial doctors, public health nurses, and full-time health managers are available. Our health measures are implemented in cooperation between the Human Resources Division, Labor Relations Division, and Environment, Safety & Quality Division.

Managing and Improving Workplace Environment

Mitsui Chemicals is determined to provide its employees with a suitable work environment. We conduct precise environmental measurements and evaluate the results with the goal of eliminating all unnecessary hazards.

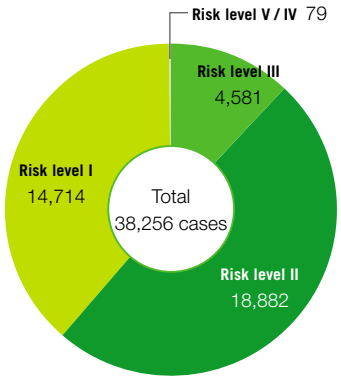
We conducted risk assessments concerning occupational health in accordance with our occupational safety and health management system (OHSAS 18001) at all of our five domestic works. Health risk levels of individual labor operations were determined using a five-grade scoring system. The scores were calculated by this formula: magnitude of damage (harmfulness) x exposure risk factors (work frequency, handling volume and volatility/scattering ability of harmful substance, workplace environment and equipment status). Of a total of 38,256 cases examined, 79 (0.21%) were rated as level IV or V (unacceptable risks). These environments will be remedied immediately. Locations rated atlevel III (risks that must be controlled) will be addressed next. It is vital to improve our channels for risk communications at each workplace to reduce occupational health risks. We are striving to enhance our efforts with workplace patrols by industrial doctors and health managers. The administration is also designating smoking and non-smoking areas and establishing rules for VDT* work.

* VDT work: Generically refers to works using VDT (Visual Display Terminals), which consist of a display and keyboard. They allow functions such as data entry, search and comparison, text and image preparation, editing and correction, programming, and monitoring.

Risk level table

Risk level	Score	Measures
V	14–16	Take immediate measures or discontinue operation.
IV	10–13	Take measures within a given period.
III	6–9	Draft measures within a given period and implement them systematically.
II	2–5	Physical measures are unnecessary. Improve procedures if necessary.
I	1	No measures are necessary.

Breakdown of health risk assessments



Health risks:
Chemical burns, contact poisoning with hazardous substances, reactions/unnatural motions in VDT work, noise hazards, radiation sickness

Workplace environment measurements

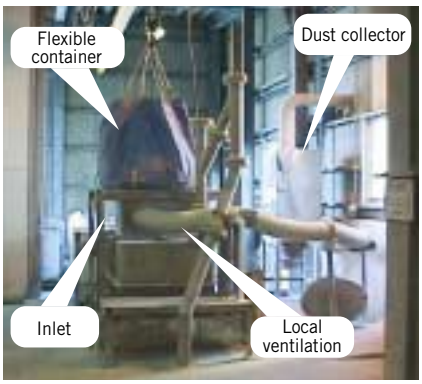
Harmful environment	Number of measuring points	Management level I	Management level II	Management level III
Ordinance on Prevention of Organic Solvent Poisoning	148	110	0	0
Ordinance on Prevention of Hazards Due to Specified Chemical Substances	52	50	2	0
Dust	22	21	1	0

* Management level I: Workplace environment management is appropriately implemented; maintain the current management level.
Management level II: There is room for improving workplace environment management; endeavor to shift to management level I.
Management level III: Workplace environment management is inappropriate; take immediate remedial action.

Example of Workplace Environment Improvement

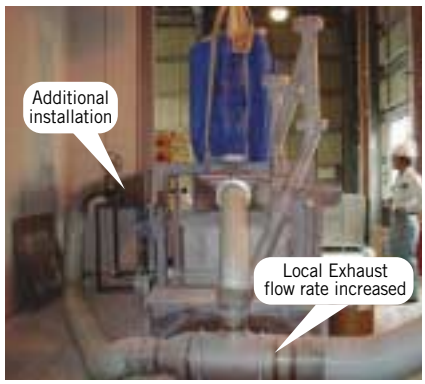
Industrial doctors and health managers regularly conduct workplace patrols and suggest upgrades for equipment according to the conditions in the workplace, in cooperation with onsite workers. At the Ichihara Works, due to insufficient capacity of local exhaust equipment, powder leaks from between flexible containers and inlets had been of concern during raw material powder feeding. Remedial measures included enhancement of the local ventilation equipment, an increase in ventilation flow rate, and moving the enhanced dust collector outside the plant.

Before improvement



A scene in the facility

After improvement



A scene in the facility

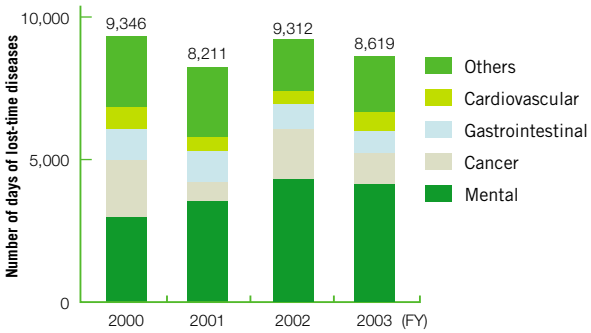
A scene outside the facility

Health Management

We are working to prevent damage to our employees' health by regular medical check-ups and health counseling by industrial doctors and qualified health experts. We are striving to attain employees' positive health as well as to prevent damages to their health by offering various voluntary measures, such as to offer health guidance and relocation based on the check-up results. Although lost-time injuries associated with mental diseases had tended to increase since fiscal 2000, the rise stopped in fiscal 2003, as a result, we believe, of various measures including mental health education and establishment of a counseling system.

Additionally, in fiscal 2003, company-wide workplace stress tests were conducted using the Simplified Occupational Stress Questionnaire developed by Japan's Ministry of Health, Labour and Welfare. Feedback of the results was provided, and workplace managers were given descriptions of the characteristics of their workplaces. Based on these results, workplace stress reduction activities were conducted. In fiscal 2004 and beyond, we will implement internet-based training of employees in raising their tolerance of stress.

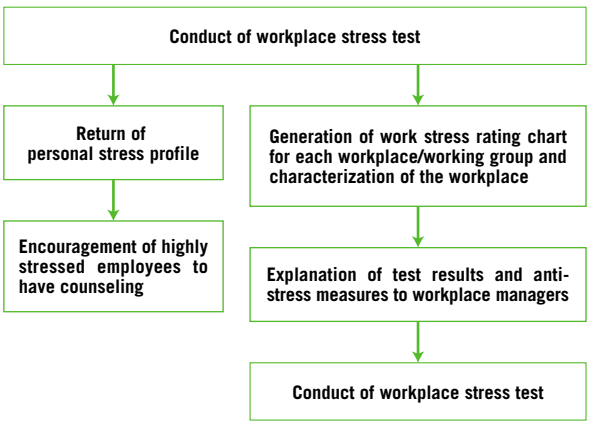
Breakdown of lost-time diseases



Conducting Workplace Stress Tests

Employees were also informed about the results of the workplace stress tests. Stress reduction activities were conducted and stressed employees were encouraged to apply for counseling, and for workplace managers to understand the stress status of each workplace and mitigate the stress. We will continue these programs.

Workplace stress test outline



Examples of Health-building Activities

Under the lead of health promotion committees at all of our business sites, we are conducting a variety of health promotion activities, including walking events, short marathons, athletic meets, the "Long Program"*, inter-workplace sport competitions, fitness classes, and dietary habit improvement programs.

At the Iwakuni-Ohtake Works, a walking event is held in May every year. The "Fureai Walking" event is attended by about 400 employees and their families in teams of two to five members. In the midst of the fresh green at Miyajima of Hiroshima Prefecture, they participate in orienteering and enjoy picnic lunches, sightseeing, games and quizzes. Some teams try to get high scores, while others just enjoy nature, hiking or family time.

* Long Program: A health promotion program to encourage employees to continue good health habits. Each workplace sets its own health promotion goals and checks performance for a 2- or 3-month period. Accomplishment of the goals is awarded with prizes and successful workplaces are commended.

Walking event at Miyajima, Hiroshima Prefecture

Comment from Manager

Our philosophy in implementing our health measures is that employees' health is linked directly to corporate soundness. We are making steady continual approaches, from both mental and physical viewpoints, to coping with physical decline due to aging of employees and mental health issues. With regard to risks to our employees' health, we are ensuring legal compliance and planning to clear the numerical targets specified in our management system by various means, including workplace patrols.

Seitaro Dohi
Manager,
Health Management Office,
Labor Relations Division

Commitment to Process Safety and Disaster Prevention

Mitsui Chemicals places its highest priority on securing safety, and is constantly involved in programs and other efforts to prevent process accidents and labor accidents. Our ambition is to construct a safety system, based on efficient preventative measures, that ensures zero accidents.

Securing Safety

In addition to improving the reliability of our facilities using a process safety and disaster prevention system, we are working to ensure safety, with a focus on the following points.

Company-wide inspections and measures regarding technical factors in safety

- 2001: Gas explosions (0.5 billion yen invested in countermeasures)
- 2002: Toxic substance leakage
- 2003: Reaction hazards (survey of blending reaction hazards at each of our works).
- 2004: Static electricity accidents

Safety assessment and verification according to company rules

In fiscal 2003, we assessed and verified the safety of 515 newly installed or modified units of equipment in the entire company, in accordance with our Environment and Safety Evaluation Meetings Operating Procedures and Technology Evaluation Meetings Operating Procedures.

Updating educational programs for heritage of safety technology

- Sending contract researchers to safety engineering university
  To improve safety technology at our works, we are training our employees by sending them as contract researchers to a safety engineering university. The number of employees dispatched was increased to two in fiscal 2004.
- Training workplace safety engineers (SEs)
  To enhance workplace safety at each plant, we have begun training workplace safety engineers (one per workplace).

Resolving technical safety issues using the safety engineering approach

In the event of a technical problem that must be resolved using the safety engineering approach, immediate measures are taken by the Safety Engineering Team of the Process Technology Laboratory of our Sodegaura Center and the Safety Science Division of Mitsui Chemical Analysis and Consulting Service, Inc.

Certification of Internal Safety Policy for High-Pressure Gases

We have already obtained certification for our safety practices at 43 facilities in two works according to the High-Pressure Gas Safety Law. This certification is granted by the Minister of Economy, Trade and Industry to factories which have maintained excellent safety management systems and organizations and high standards in their results while operating high-pressure gas equipment.

Certification acquisition status of internal safety policy by site

Works	Date of certification	Number of certified facilities
Ichihara Works	06/23/2003	24
Iwakuni-Ohtake Works	08/29/2002	19

Strengthening Audit System for Autonomous Inspections for Safety Practices According to the High-Pressure Gas Safety Law

We reflected on the mishaps in a safety inspection at the Osaka Works in 2003, and promoted group-wide efforts for compliance with laws and rules as a key issue for the rest of the fiscal year. Autonomous inspections are a vital part of safety practices, so we took a number of company-wide measures to enhance our education on compliance with laws and rules, which included distributing the "Our Action Guidelines" booklet (refer to page 39) to every employee. We have also established auditing organizations to oversee compliance with laws and rules at the Head Office and all domestic works; they implement such audits for individual departments. We have complete confidence in the capabilities of our safety auditing system.

At our works certified for safety practices according to the High-Pressure Gas Safety Law (Ichihara Works and Iwakuni-Ohtake Works) and the Osaka Works, the auditing system was reconsidered and reorganized as described below.

1. A head office auditing group was established to strengthen the plant safety auditing system.
2. The Safety Audit Department was re-organized into an independent organization with enhanced responsibilities and auditing powers.
3. Inspection operations have been integrated with the other duties the Maintenance Department of Mitsui Chemicals, to raise internal awareness of inspection operations and to assign clear responsibility to that Department.

Enhancing the systems at the Ichihara Works, Iwakuni-Ohtake Works, and Osaka Works

Plans and Drills for Local Safety and Disaster Prevention

In preparation for emergencies, we perform regular anti-disaster drills, including fire, summons of personnel, and general alarms. Disaster prevention plans are prepared annually by individual workplaces and drills are conducted as suitable for each workplace. Additionally, periodic general disaster prevention drills are planned for the entire works and conducted in the presence of a public fire service and the self-defense fire-fighting unit. In addition, joint disaster prevention drills with mutual assistance are conducted along with one of the local public fire departments and with neighboring companies.

A disaster prevention drill at Omuta Works

A fire-fighting drill at Osaka Works

Efforts to Prevent Accidents

We are striving to forestall similar accidents by taking preventive measures based on what we have learned from the following three accidents occurring at our sites in fiscal 2003.

- Broken ceiling panel in ammonia plant absorbent storage tank (Osaka Works).
- A fire occurred at a synthetic oil plant (Iwakuni-Ohtake Works).
- A fire occurred at an alkyl aluminum filling station (Osaka Works).

Preventing accidents

We are taking preventive measures against accidents, particularly by instilling proper safety skills in the staff at every Mitsui Chemicals location. Other preventive measures include security patrols and head office audits.

Containing accidents

In the event of an accident, a task force will be assembled at the Head Office and at the affected site to take immediate action, as directed in the company-wide hazard management rules. Additionally, each of the works has a disaster prevention organization, including an internal fire team, and anti-disaster drills are carried out.

Fire at Synthetic Oil Plant of the Iwakuni-Ohtake Works

Description of the accident

On November 12, 2003, a fire broke out just after personnel had started degassing a pump at a synthetic oil plant of the Iwakuni-Ohtake Works). Fortunately, there were no human injuries or effects influence outside the works; only some pieces of equipment were damaged. Repairs of the plant were completed at the end of January 2004 and operation was restored.

Causes and anti-recurrence measures

We tentatively concluded that a static spark had occurred in the container used during pump degassing, igniting the solvent, because the container had not been grounded as required.

We have implemented two preventive measures:

① The operating manual concerning static electricity at the relevant plant was updated and training was enhanced. Equipment-related measures were taken, which included closure and grounding of the pumping line.

② Information on conditions likely to cause similar accidents was shared by all of Mitsui Chemicals' works. All pieces of equipment that can be affected by static electricity were re-inspected throughout the company.

We were disgraced by this accident, which made headlines, and apologize to local residents and all other people who suffered uncertainty about the safety of their neighborhoods as a result of this unfortunate event. We will inspect not only the plant in question but also all other facilities in our Works and will make every effort to prevent the recurrence of such errors and the onset of similar accidents.

Comment from Manager

The chemical industry contributes significantly to society by providing useful technologies and materials on one hand. On the other, it involves risks such as fires and explosions, as it deals with many flammable, explosive, toxic or otherwise dangerous substances.

It is my task to minimize these risks by implementing various measures, including both physical and procedural measures, throughout the entire life cycle of our products, from research, manufacture, and sales to final disposal.

We will work together to accomplish our "zero-accidents" goal.

Osamu Usui
Environment, Safety & Quality Division

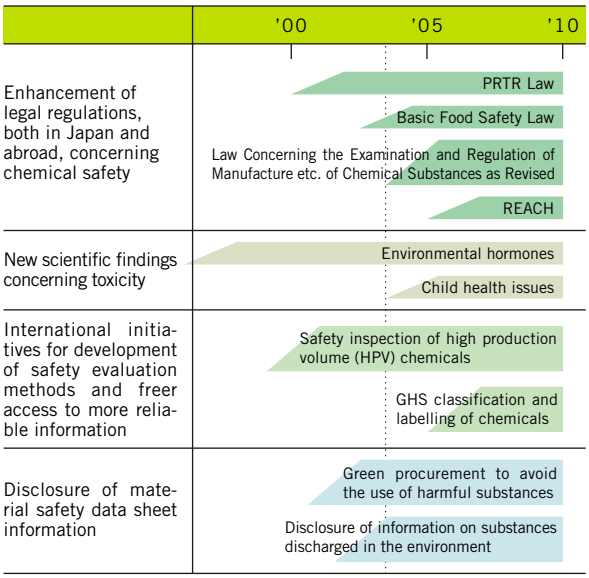
Commitment to Product Safety for Customers and Consumers

Mitsui Chemicals strives to manage product safety both for the sake of customers and consumers, and to maintain the biological diversity of the environment.

Recent Trends for Product Safety and Mitsui Chemicals' Initiatives

There have been global initiatives concerning the safety of chemical substances with international cooperation among industrial, governmental and academic sectors, led by the United Nations, OECD and other international organizations. In July 2003, the United Nations recommended the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). In Europe, the New EU Chemicals Legislation REACH (Registration, Evaluation, and Authorization of Chemicals) is being discussed for adoption in 2006 or later.

Recent trends concerning chemical safety



In response to these global trends, we accurately follow chemical safety demands, and are active in an industry-wide effort to promote safety and reliability. We emphasize chemical safety as the fundamental of RC activities involving the entire life cycle of our products, from development, manufacturing and distribution to use and final disposal. We maintain a system for evaluating the safety of our own products throughout the life cycle, and for ensuring the availability and reliability of safety information.

Our efforts for product safety

Risk Assessment of New Products

Our "ACCEL 21" product development system specifies "RC actions" as a management item. A risk assessment is conducted before launching a new product, and safety measures according to the extent of the risk are established and implemented. We conduct two types of risk assessment: The first concerns workers and the environment, associated with manufacturing and handling. The second concerns the applications (foods, pharmaceuticals, cosmetics, etc.) of finished products. Based on the results of the two assessments, the most important issues are discussed at product safety meetings.

In risk assessments, we test and evaluate hazards concerning human health, environmental influences, and flammability/inflammability (fires/explosiveness, acute toxicity, irritancy, sensitization potential, mutagenicity, etc.) at dedicated organizations in our group. Testing is conducted at the Safety Science Division of Mitsui Chemical Analysis and Consulting Service Inc. for ordinary chemical products, and at the Functional Chemicals and Engineered Materials Laboratory for agrochemicals. Mitsui Chemical Analysis and Consulting Service Inc. is a testing organization that conforms to the requirements of the Good Laboratory Practice (GLP) specified in the Law Concerning the Examination and Regulation of Manufacture etc. of Chemical Substances .

New product safety evaluation system in ACCEL 21

Stage	Development process	RC actions
I	Setting forth product concept	Collection and review of safety information
II	Adding features to the concept Market potential evaluation	Safety evaluation based on published information
III	Product development and pilot market development	Risk assessment conducted (Hazard assessment and exposure assessment) Feasibility determination* → Cancellation of development
IV	Full-scale market development	Implementation of safety measures
V	Commercialization	Launch

* Feasibility determination: If there is a considerable concern about risks, feasibility is discussed at product safety meetings.

Biological testing using aquatic organism (carp)

Analysis using liquid chromatography mass analyzer

Efforts for Green Procurement

In order to prevent use of unnecessarily dangerous substances in our products and to promote development of environmentally friendly products, we have formulated internal criteria for evaluating the substances used as raw materials for our products at their design stage.

Substances under strict legal control, such as highly toxic substances, are classified into two categories: "prohibited" and "restricted." The acceptability of their use is determined by the standards for their handling and applications. "Prohibited substances" are subject to unconditional prohibition of use, whereas "restricted substances" are subject to a risk assessment; their use is prohibited or permitted in keeping with the purpose of use of the products in which they are incorporated

Handling criteria for harmful substances

Category	Prohibited substances	Restricted substances
Handling criteria	1) Not allowed in products. 2) Not allowed for use as raw materials or ingredients.	1) Prohibit or restrict the use for applicable purposes. Conduct a prior risk evaluation if the substance is to be used. 2) Consider using an alternative substance or reducing the quantity contained.
Applicable uses	All applications	1) Products ranked as "high" or "moderate" in the PL risk criteria (substances with potential for human exposure) 2) Electric and electronic equipment components and automobile parts
Applicable substances	Substances that are banned from manufacture or use include the following: · "Substances Prohibited from Being Manufactured" in the Law on Industrial Safety and Hygiene · "Class I Designated Chemical Substances" in the Law Concerning the Examination and Regulation of Manufacture etc. of Chemical Substances	1) Legally regulated substances 2) Carcinogens 3) Substances restricted on customers' request, including the following: · Heavy metals · Halogenated compounds · Specified azo compounds

Provision of Safety Information and Improvement of its Availability and Reliability

We prepare material safety data sheets (MSDS) for all of our products, including those not covered in the above laws, and disclose safety information on our products to the general public. The ISO-based format developed by the Japan Chemical Industry Association is used.

Our product containers bear unique warning labels for handlers' attention during handling of the contents. The label gives information on the product's hazards and handling, prepared by our own standards based on internationally recognized standards.

Material safety data sheet

Warning label

Participating in the High Production Volume (HPV) Chemicals Inspection Program

The OECD high production volume (HPV) chemicals program is an international initiative to obtain and evaluate safety data on existing chemical substances with an annual production volume of 1,000 tons or more per country. We have completed evaluation of safety data on two substances; the results were submitted to the OECD review meeting. Three other substances are being evaluated.

Polylactic Acid Registered as New Resin for Tableware and Food Packages

We and Cargill-Dow Company, with which we are a partner in development of polylactic acid products (LACEA™), jointly filed an application to the Japan Hygienic Olefin and Styrene Plastics Association* (hereinafter referred to as "the Association") for approval of polylactic acid as a resin for food packaging materials. LACEA™ was approved at the June 2004 meeting of the Association and was registered as the 28th new resin. Polylactic acid was thus permitted not only in food packaging but also in the same uses as other general-purpose resins.

Additionally, as polylactic acid is expected to be used more commonly in the future, national standards of categorized food packages are being developed. Prior to establishing such standards, the effects of each test substance on foods and health are evaluated by the Food Safety Commission of Japan's Cabinet Office. We provide information necessary for the evaluations in cooperation with relevant companies.

* Japan Hygienic Olefin and Styrene Plastics Association: An organization founded to promote unified efforts for the appropriate use and spread of plastic materials for food packaging, so as to ensure their sanitation and safety.

Comment from Manager

Because no absolutely harmless chemical substances exist, chemical substances cannot be handled appropriately unless their safety is accurately evaluated and the results are disclosed to the public. Product safety activities, based mainly on safety assessments and information management, can be viewed as the fundamental for RC activities. We will reinforce our foundation for safety to accomodate the expected increase in awareness of product safety in chemical substances through improving internal management system.

Masahiko Hanzawa
Environment, Safety & Quality Division

Commitment to Quality Management

The Mitsui Chemicals Group places the highest priority on safety for customers and consumers. Accordingly, we are working to strengthen our quality management throughout the company.

ISO 9001 Certification Acquisition Status

We are working to provide products that satisfy our customers' needs while imposing a lower environmental load by implementing quality management based on the system we have described in earlier pages. In fiscal 2003, all of our works acquired ISO 9001 certification as revised in 2000. The new standards require continual improvements and customer satisfaction. Our approach to continual improvement is to systematically revise and upgrade our quality management systems. We are satisfied with the performance of the PDCA cycle in overseeing product quality. As for customer satisfaction, we emphasize obtaining feedback, including complaints, from our customers.

ISO 9001 certifications by site

Works		Certification number and version
Ichihara Works (Including Mobara Center)		ISO9001:2000
Nagoya Works		ISO9001:2000
Osaka Works		ISO9001:2000
Iwakuni-Ohtake Works	Petrochemicals	ISO9001:2000
	Pellicles	ISO9001:2000
	Piping materials	ISO9001:2000
Omuta Works		ISO9001:2000

Enhancing Quality Management at Subsidiaries and Affiliates

The production lines for 100 items in 39 subsidiaries or affiliates with production departments (20 in Japan, 19 overseas) were inspected to determine their performance of quality management according to use risks of their products. Quality auditing was based on the *Sangen* principle* and was also conducted for process management, from feedstock acceptance to product storage. Quality management levels are determined by the results of these self-inspections and quality audits. Mitsui Chemicals provide support for its subsidiaries and affiliates to enable them to maintain their own quality management levels, which are specified according to the uses of their products.

* *Sangen* principle: Measures are planned and executed with these three key factors in mind: the site, reality, and the actual article.

Quality auditing for a subsidiary

Responding to Complaints

There should never be quality-related complaints, from the viewpoint both of customer satisfaction and of product safety. For this reason, we are working to reduce complaints as a key issue of quality management.

For example, we perform stratified analysis of complaints by business division and by operating stage, and we concentrate our efforts on the divisions and stages which have the highest incidences of complaints. Additionally, we instituted the Complaint Management Workflow System*1 in fiscal 2004; this system allows sharing of complaint information throughout the company and ensures quick responses to complaints.

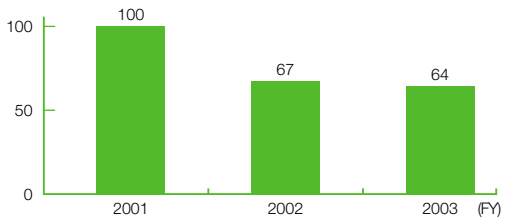
We are also conducting the following means to reduce complaints.

- Implementation of executive audits
- Education on prevention of PL-related accidents and quality management
- Sharing information on complaint case reports
- Logic tree analysis for causes of complaints
- Strengthening guidance for production contractors
- FMEA*2 analysis for potential factors

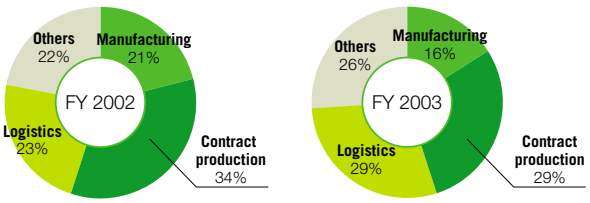
*1 Complaint Management Workflow System: Mitsui Chemicals' database system that enables sharing information on quality-related complaints from customers in all workplaces (offices, works, and laboratories) to support identification of causes, remedial measures and reporting to customers.

*2 FMEA: An abbreviation for Failure Mode & Effects Analysis.

Changes in the number of complaints per year
(percent values compared to fiscal 2001)



Breakdown of complaints by year



Comment from Manager

Recently, customers' needs and desires for product quality have become more and more diverse and demanding, due to the tightening of environmental regulations and the occurrence of accidents resulting in lawsuits. The entire Mitsui Chemicals Group, including domestic and overseas subsidiaries and affiliates, will strive to further improve our quality management to meet such demands, by providing appropriate information, promoting quality management education, and continuing onsite quality audits.

Masatoshi Kumamoto
Environment, Safety & Quality Division

Commitment to Logistics Safety

In July 2003, Mitsui Chemicals separated its Logistics Division into Mitsui Chemicals Logistics, Inc. The RC & Logistics Technology Department was established in the new subsidiary to promote logistics-related RC activities in the Mitsui Chemicals Group.

Logistics Safety Management System and Logistics Safety Education

The Mitsui Chemicals Group has formulated rules to ensure the safe transportation of products manufactured at their works: Rules for Environmental and Safety Control in Logistics, Logistics Division's Guide to MSDS Distribution, Guide to Yellow Card Management, and Guide to Auditing Logistics Contractors. We are also promoting logistics-related RC management in cooperation with Mitsui Chemicals Logistics, Inc. To fulfill our corporate social responsibilities, we, along with Mitsui Chemicals Logistics, provide guidance/education programs and quality audits for logistics contractors per annual logistics safety plans. Our works hold meetings of the MCI Contractors Safety Collaboration Committee and the Disaster Prevention Council to maintain awareness of logistics safety among logistics contractors and to prevent accidents.

A logistics safety management meeting

A safety activity reporting meeting of the Disaster Prevention Council

MSDS and Yellow Card

Since we handle many legally controlled substances, poisons and deleterious substances, we provide MSDS's for logistics contractors and require their drivers to carry a Yellow Card to secure safety during product transportation.

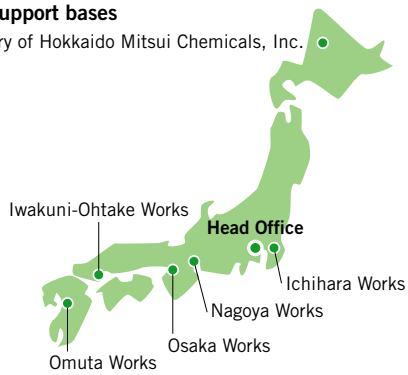
Yellow Card

Logistics Safety System MENET

The Mitsui Chemicals Group has established the Mitsui Chemicals Logistics Group Emergency Network (MENET), a logistics safety system for emergency actions to minimize damage in the event of an accident during product transportation. The system is operated by Mitsui Chemicals Logistics, Inc.

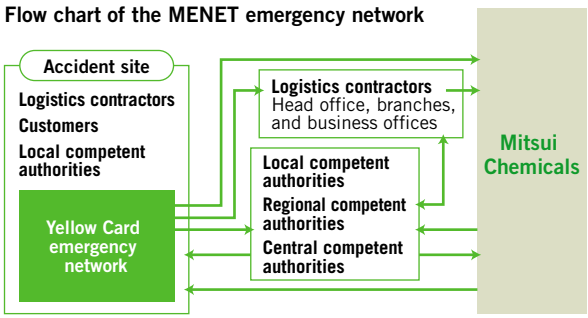
In this system, Japan is divided into six areas. Upon hearing of an accident, competent employees are immediately dispatched from the nearest works to take action. Anti-disaster equipment and materials are always available at regional contractors and logistics warehouses to enable speedy action, under the control of relevant works.

MENET support bases



Support base area	Support base offices
Tohoku	Tohoku Uloid Co., Ltd., Santou Chemicals, Inc.
Kanto	Chiyoda Office, NRS Group;
	Furukawa Office, MCI Logistics (East), Inc.
	Atsugi Office, MCI Logistics (East), Inc.
Koshin-etsu	Niigata Warehouse, Maruhi Unso Soko Co., Ltd.
	Atsugi Office, MCI Logistics (East), Inc.
Tokai and Hokuriku	—
Kinki	Takatsuki Distribution Center, Gotsu Co., Ltd.
Chugoku	Airport Warehouse, Fuji Warehouse & Transportation Co., Ltd.
Shikoku	Takahashi Unyu Soko Co., Ltd.
Kyushu and Okinawa	—

Flow chart of the MENET emergency network



Comment from Manager

We place first priority on the prevention of accidents in our efforts for logistics safety; we implement this policy by operating our logistics RC management system. We want to enhance our MENET system by expanding its support bases and training more employees.

Tsunenori Yoshimura
Director,
RC & Logistics Technology Department,
Mitsui Chemicals Logistics, Inc.

Businesses, Products and Technologies That Contribute to Environmental Preservation

Mitsui Chemicals is developing products that contribute to environmental preservation and to expand their use in the theme of "Harmony with the Global Environment", as advocated in its corporate philosophy. Our environmentally friendly products and technologies are an invaluable part of our customers' daily lives.

At Offices

● Product ❶ ARLEN™

High heat resistance enables use with lead-free solder

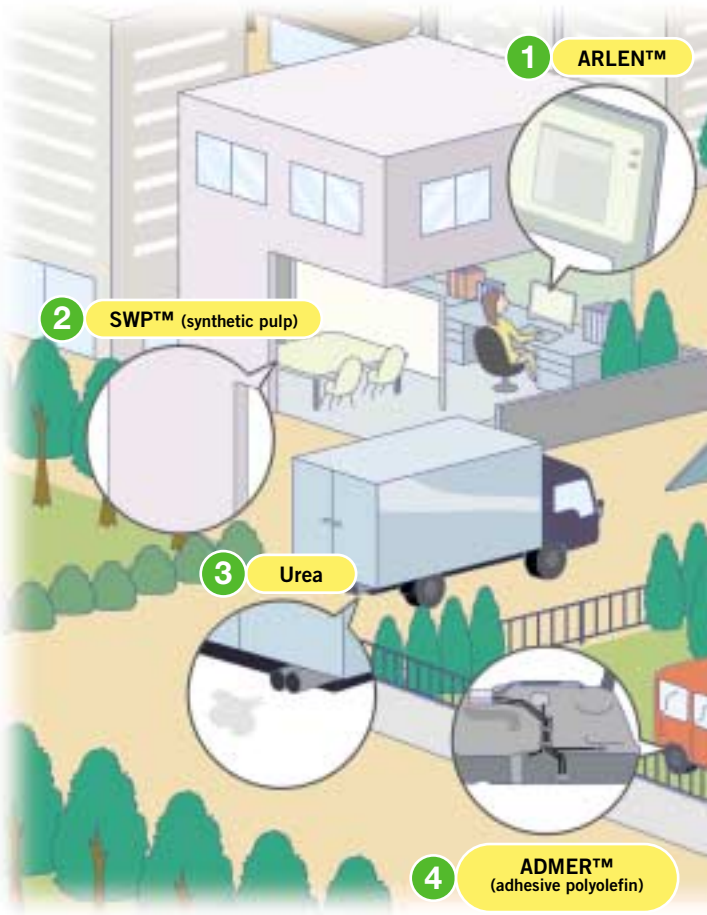
Products incorporating ARLEN™

One of our environmental initiatives in the field of electric and electronic equipment components is our ongoing switchover to lead-free solder. Because lead-free solder melts at higher temperatures than conventional solder, the resin materials used in electric and electronic equipment components need to have increased heat resistance. Our high performance resin ARLEN™ satisfies this requirement and is widely used in manufacture of electronic equipment components and other products.

● Product ❷ SWP™ (Synthetic Pulp)

Harmless material in paints and cement slates

Asbestos used to be a component of paints and cement slates, but its use has recently been controlled because of its harmful properties, especially its carcinogenicity. The synthetic pulp SWP™, a highly branched polyolefin fiber material, is already used as a substitute for asbestos. SWP™ poses no risks to the environment; it is manufactured from polyolefin, a non-destructive plastic material that has a long use history.



In Trucks and Passenger Cars

● Product ❸ Urea

Diesel exhaust scrubbing system for trucks

The New Energy and Industrial Technology Development Organization (NEDO) is developing exhaust gas clarification systems that will promote the spread of low-pollution diesel-powered trucks.

By spraying aqueous urea into exhaust gas to accelerate the catalytic reaction, NOx (nitrogen oxides) emissions can be cut by nearly 50%. Hence, engine efficiency can be increased to achieve a significant improvement in fuel efficiency while clearing the exhaust gas control standards.

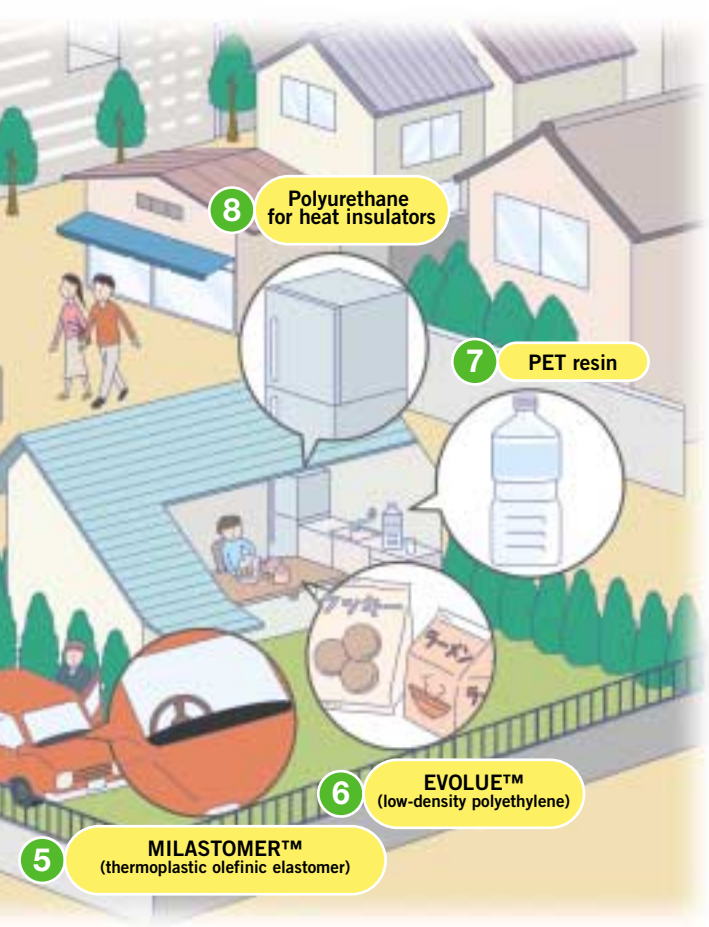
Mitsui Chemicals is cooperating in technical development in this project as a urea manufacturer.

● Product ❹ ADMER™ (adhesive polyolefin)

Automobile CO_2 emissions are reduced with fuel tanks of EVOH multilayer plastics

Fuel tank of ADMER™

To improve fuel efficiency and reduce CO_2 emissions by vehicle weight reductions, metal fuel tanks are being replaced with plastic tanks. However, conventional technology causes another kind of air pollution, as some fuel passes through the tank walls. We have found that EVOH barrier layers with adhesive layers of ADMER™ prevent fuel diffusion through wall surfaces. This has allowed us to successfully commercialize a new type of fuel tank.



In Daily Life

● Product ❽ Polyurethane for heat insulators

Contributes to ozone layer protection with chlorofluorocarbon-free heat insulators for refrigerators

Polyurethane, a heat insulator for refrigerators, has traditionally been molded with the addition of a chlorofluorocarbon as a foaming agent. However, production and use of chlorofluorocarbons were totally prohibited under the environmental regulations to prevent ozone layer depletion.

Hence, we have developed a heat insulation with a foaming agent based on cyclopentane, instead of chlorofluorocarbons. Although this hydrocarbon is inferior to chlorofluorocarbons in terms of insulation performance, our new material exhibits equivalent performance to conventional heat insulators molded using chlorofluorocarbons, thanks to improvements in the foam-molding method.

● Product ❼ PET Resin

Residual metal contents in PET resin reduced by catalyst improvement


PET resin for bottles

Antimony compounds are widely used to catalyze polymerization condensation of PET resin for bottles. However, they have been problematic with regard to transparency and other properties for PET bottle resin due to their high residual metal content, because of the relatively large amount of the catalyst, which has a low polymerization activity.

Using a specially developed titanium catalyst of high polymerization condensation activity, we managed to cut catalyst consumption, so that catalyst-derived metal contents remaining in the PET resin were significantly reduced. Bottle transparency was thus improved.

● Product ❻ EVOLUE™ (low-density polyethylene)

Resources conserved with resin of superior physical properties

EVOLUE™ is a polyethylene for use as a food packaging material. Using a new metallocene catalyst for the first time in the world, we have enabled production of a polyethylene resin that is tougher and more transparent than conventional resins. Its improved impact resistance enables film thickness to be reduced, thus contributing to resource conservation.

● Product ❺ MILASTOMER™ (thermoplastic olefinic elastomer)

Enables recycling of automobile interiors


Automobile interior panel of MILASTOMER™

Automobile interior panels and door interiors are made from polypropylene for the body and vinyl chloride resin for the surface. These interiors do not permit complete separation of their component materials, so are difficult to recycle. Using MILASTOMER™ in place of vinyl chloride resin eases recycling. Another advantage of MILASTOMER™ over vinyl chloride is that it is lighter and more resistant to heat and has less volatile content.

List of businesses, products and technologies that contribute to environmental preservation

D: Reduce, C: Recycle, P: Replace, M: Remediation

Business/Product/Technology	Material	Features and applications	D	C	P	M
Petrochemicals Business Group						
TOUGHTRACE*1 (cleaner for molding machines)	—	Cleaner for processing and molding machines that generates minimal waste volume	○	–	–	–
HI-ZEX*1 for thin-wall bottles	High-density polyethylene	Bottles 15% lighter than conventional products while retaining sufficient rigidity and strength	○	–	○	–
EVOLUE*1 for packaging materials	Vapor-phase process low-density polyethylene	Packaging material 20 to 30% thinner than conventional products while retaining sufficient strength	○	–	○	–
ULTZEX*1 for soft bottles	Solution process low-density polyethylene	Containers 15% lighter than conventional products while retaining sufficient rigidity and strength	○	–	–	–
PP material for automobile bumpers	Polypropylene	PP material enabling shorter molding time than with conventional products	–	–	○	–
Promoting PP bumper recycling	Polypropylene	Formulas of recycled materials/virgin materials that satisfy the performance targets for recycling PP bumpers are disclosed to customers, and bumper materials of such formulas are sold under our own brand name.	–	○	–	–
PP mixed with wood powder, bamboo, cornstarch, etc.	Polypropylene	PP mixed with wood powder: Contributes to reducing the use of wood as a building material. PP mixed with bamboo: Used for egg containers etc. as a substitute for paper. PP mixed with cornstarch: Biodegradable and used for convenience store lunch packaging.	○	○	–	–
PP material for concrete panels	Polypropylene	Using PP shuttering for concrete panels instead of wood shuttering reduces wood consumption.	○	○	–	–
Polyolefinic material for PET bottle shrink labels	Polypropylene/Apel etc.	Polyolefinic labels of good shrinking property enabling bottle-label separation in water, expected to occupy a significant position in future recycling systems	○	○	–	–
PP material for DVD cases	Polypropylene	Material permitting thin-wall molding with high fluidity. A homo-PP material of high rigidity and a transparent random PP material are available.	○	–	–	–
PP material for PTP	Polypropylene	PP material as a vinyl chloride substitute featuring better moldability and transparency	–	–	○	–
PP material for foldable containers	Polypropylene	Material permitting thin-wall molding with high fluidity and high impact resistance	○	–	–	–
Powder molding technology (project contracted by NEDO)	Polypropylene	Energy consumption in the manufacturing process can be reduced by about one-third by molding PP resin directly from powder.	○	–	○	–
Wet-type oxidation equipment	—	Technology to efficiently decompose sulfur-containing wastewater from various organic manufacturing plants	–	–	–	○
High-speed heat cycle injection molding technology	—	Offering a better surface finish on molded products than with the conventional molding method, this new technology obviates the coating process or reduces the frequency of coating during surface finishing.	○	–	○	–
Developing SPM (simple plastic manufacturing) technology	—	Plastic production technology without granulation or pelleting processes	○	–	–	–
Basic Chemicals Business Group						
PET recycling system	PET (polyethylene terephthalate)	Waste PET resin is recycled by recycling into pallets, garbage bags, etc.	–	○	–	–
Diesel-powered automobile exhaust scrubbing technology (project entrusted by NEDO)	Urea	Urea is charged to diesel-powered automobile exhaust gas processor to significantly reduce NOx in exhaust gas.	○	–	–	–
Functional Polymeric Materials Business Group						
ADMER*1	Adhesive polyolefin	Complexing of polyolefin material	○	–	–	–
TAFMER*1	α-Olefin copolymer	Additive to improve impact resistance at low temperatures	○	–	–	–
MILASTOMER*1	Thermoplastic olefinic elastomer	Soft resin material used mainly for automobile interior surface material and sealants	–	○	○	–
HIMILAN*1 NUCREL*3	Ethylenic ionomer resin Ethylene-methacrylic acid copolymer resin	Thermoplastic ethylenic resins that have excellent transparency and toughness	○	–	–	–
ARLEN*1	Denatured polyamide 6T (semi-aromatic polyamide)	Heat-resistant and low-water-absorbing polyamide that can be used with lead-free solder	–	–	○	–
New Hofmann PAM	Polyacrylamide	Paper-reinforcing agent for cardboards with no higher COD or BOD than the conventional agent starch	–	–	○	–
CHEMIPEARL*1	Olefin resin	Development of a new use in non - chromate anticorrosive coatings (anticorrosive coatings that do not incorporate hexavalent chromium, an agent harmful to the human body). Automobile coating materials (solvent-free resins, aqueous resins)	–	–	○	–
Metallocene Wax	Olefin resin	Application for low-temperature paving asphalt	–	–	○	–
FTR*1	Olefin resin	Recyclable moisture-proof paper	–	○	–	–
OLESTER*1 UD	Urethane modified resin	Aqueous urethane elastomer, VOC-free coating	○	–	–	–
ALMATEX*1 powder	Acrylic resin	Solvent-free automobile coatings	–	–	○	–
FA STRUCTBOND	Epoxy resin	Substitute for asbestos	–	–	○	–
Chemical recycling process using supercritical steam	—	Process that enables the chemical recycling of TDI manufacturing process byproduct residue using supercritical steam technology	○	○	–	–
TAKEMELT*4	Polyurethane	Rapidly setting reaction type urethane hot-melt adhesive that contributes to workplace environment since no solvents are necessary	–	–	○	–
Functional Chemicals & Engineered Materials Business Group						
SWP*1	Synthetic pulp of polyolefin	Substitute for carcinogenic asbestos	–	–	○	–
Nonwoven fabric	Polypropylene	Resource conservation and waste reduction by reducing the thickness of sanitary articles	○	–	–	–
Smart Shield Film	—	A film that blocks electromagnetic waves and heat rays, preventing jamming and contributing to energy conservation in houses.	○	–	–	○
TECHNOROT*1	Polyethylene	Polyethylene wires	○	–	–	–
Semiconductor substrate of high heat resistance (BN300 package substrate)	—	Semiconductor package substrate that can be used with lead-free solder	○	–	–	–
Halogen-free semiconductor substrate of high heat resistance (BN300GF package substrate)	—	Halogen-free semiconductor package substrate that can be used with lead-free solder	–	–	○	–
Gaseous methyl silanes	Trimethylsilane	Gas for preparing semiconductor low-permittivity films	○	–	–	–
Decomposing catalyst to detoxify exhaust gases		Exhaust gas treatment agent that detoxifies hazardous metal hydride gases, such as used silane gas, discharged from electronic device manufacturing processes	–	–	–	○
MEGAX*1	Hydrogen iodide	Dry liquid crystal etching process	○	–	○	–
Aluminum nitride		Heat-releasing material of high thermal conductivity	–	○	–	–
FILTOP*1	—	Optical filter that blocks electromagnetic waves	–	–	○	–
WHITE REFSTAR*1	Polypropylene	Highly reflective light-fast material for liquid crystal televisions and personal computer displays that contributes to increased illuminance and low power consumption	○	–	–	–
ENHANSTAR*1	—	Sophisticated reflective material for liquid crystal televisions and personal computer displays. It contributes to increased illuminance and lower power consumption by a combination of silver's high reflectivity and diffusion reflectivity	○	–	–	–
ALMASTAR	Polyester resin	Environmentally friendly toner binder resin based on regenerated PET resin	–	○	–	–
CTP printing board	—	Printing material that obviates the developing process	○	–	–	–
Starkle*1	Furanicotinyl-series insecticide	Halogen-free insecticide, allowing lower use of agrochemicals	–	–	○	–
ME catalyst	—	Catalyst for decomposition and detoxification of dioxins in exhaust gas	–	–	–	○
Polymer Business Development Division						
LACEA*1	Polylactic acid	Plant-derived biodegradable plastic	○	–	○	–
Subsidiaries and affiliates						
EVAFLEX*1 EVAFLEX*1-EEA	Ethylene-vinyl acetate copolymer resin Ethylene-ethyl acrylate copolymer resin	Non-halogen flame-retardant thermoplastic ethylenic resins	–	–	○	–
WARM business	—	Recycling business for difficult-to-recycle waste acids from factories	–	○	–	○
Noborock*5	—	Fluorine-removing agent that satisfies the new water effluent control standards by a wide margin. Removed fluorine is recycled.	–	○	–	○
SOLAREVA*2	Ethylene-vinyl acetate copolymer resin sheets	Highly durable sheets for solar battery sealing	○	–	–	–
High IC sheets	Electrically conductive polyethylene sheets	Lightweight foaming sheets (IC trays) for electroconductive vacuum molding that generate less frictional dust	○	–	–	–

*1: Trademark of Mitsui Chemicals *2: Trademark of Hi-Sheet Industries *3: Registered trademark of Du Pont *4: Trademark of Mitsui Takeda Chemicals *5: Trademark of Shimonoseki Mitsui Chemicals

Communication with Employees

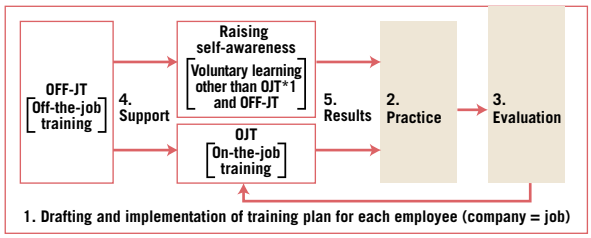
Mitsui Chemicals promotes communication with its employees by providing various programs for each employee.

■ Concept of Fostering Human Resources

We emphasize not only our "corporate vision" but also "happy life" of each employee, and are working to foster human resources as described below.

1. The company provides clear guidelines for the behavior expected of employees as an integral part of its corporate vision, and sponsors the necessary educational programs for its employees.
2. The employees develop individual capabilities at their own wishes, maximize the capabilities through implementation of their duties, and realize their potential.

Basic flow of our human resource development



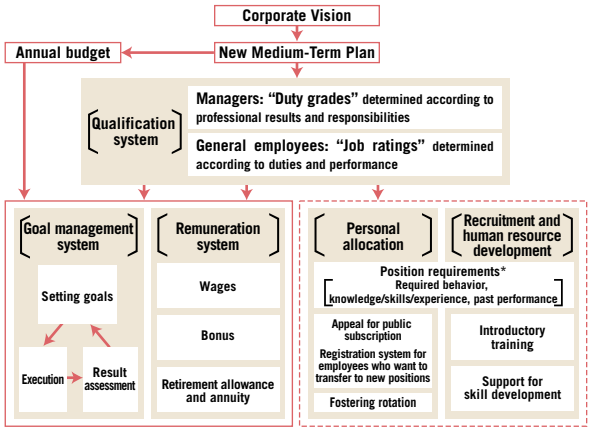
1. Drafting and implementation of training plan for each employee: Specific capability development plan is drafted and implemented with discussion of employee and superior.
2. Practice: Growth due to training (OJT) at the workplace is realized in one's work.
3. Evaluation: Results of work are evaluated and the evaluation is utilized in further training (OJT).
4. Support: Results from OFF-JT support OJT and raising self-awareness.
5. Results: Results from raising self-awareness are practiced in work.

■ New Personnel Allocation System

In fiscal 2004, we instituted a major reform of our personnel allocation system, aspiring to see a Strong and Excellent Mitsui Chemicals Group with a strong competitive position in the global market. We introduced a new personnel allocation system that ensures treatment of employees based on their business performance and responsibility, to ensure recruitment and human resources development for sustainable growth, and to enhance our management and organizational culture.

Following duty assessments, we introduced a new remuneration system and goal management system based on the assessment results, and reconsidered personnel allocation/transfer and recruitment/human resources development system.

Outline of the new human resources system



* Purposes of position requirements: 1) Promotion of personal capability development and challenging assignments for employees 2) Securing acceptance of personnel assignment
* Scheduled to begin in fiscal 2004.

■ Implementing Company-wide Education and Training Programs

In addition to compulsory hierarchical courses designed to accommodate individual capabilities, we offer a variety of optional courses. A large number of subjects are offered to each individual through internal education, external education, and correspondence. They are allowed to freely choose among these and plan individual programs to realize their personal potential. We will expand our educational programs in line with fostering human resources in the new personnel allocation system.

Status of implementation of educational and training programs

Fundamental enhancement Hierarchical	Skill enhancement	Accommodation to globalization	Self-awareness support	Regional/sectional
Legal compliance motivation education Mental health education Training for newly recruited university graduate employees Education for 2nd-year employees who are university graduates Seminar for newly appointed managerial personnel	Education on individual laws and rules · Product Liability Law · Law Concerning Product Safety · Poisonous and Deleterious Substances Control Law · Control of the export of strategic products etc. · Corporate information management · Prevention of sexual harassment · Antimonopoly Law · Credit exposure management Basic education for employees at sales departments · Business activities and patents · Logistics overview and safety Seminar on accounting Quality management education	Overseas short-term training Business English conversation education Bonus for taking the TOEIC test. Business skill development education (presentation, writing, etc.)	Challenge education A system to provide support for the independent development of individual capabilities. A variety of optional courses, including internal education, external education and correspondence education, are available in the following subjects. · Language · Management · Legal qualifications · Accounting, financing, etc.	Education for each site and education for each workplace Education on issues concerning individual sites, including works, laboratories, head office and branches, and on issues specific to individual workplaces · Environment, safety, health, and quality · Laws and regulations · Production technology etc.

Introducing e-Learning System

We are promoting e-learning for our employees. In fiscal 2003, we introduced an extensive e-learning system to cope with the growing speed of information transmission and to provide educational programs on new knowledge and skills for production staff at the Iwakuni-Ohtake Works.

In fiscal 2004, an e-business lecture program based on the e-learning system was started to raise all employees' awareness of e-business and improve their knowledge. We also instituted a self-learning system using internet websites as a measure to prevent occupational stress and to strengthen their responses to stress.

Outline of the e-learning system

Session training and correspondence education

- Subject to limitations as to time and place
- Effect of education difficult to quantify
- Requires miscellaneous duties before and after training sessions

e-Learning

- Allows free choice of learning time and place
- Enables performance management/analysis and skill management
- Helps to ensure a uniform understanding and knowledge about duties and products, facilitates further skills
- Provides educational materials suitable for individual skill levels
- Allows quick update of educational materials and information

Education on Compliance

In fiscal 2004, Mitsui Chemicals conducted a total of 10 compliance training sessions for managers, at the head office, every factory and branch office, on company-wide compliance issues. The sessions incorporated examples of legal violations both inside and outside the company. The company also promoted a number of other measures, which included distributing the "Our Action Guidelines" booklet to every member of the Mitsui Chemicals Groups, including affiliated companies both inside and outside Japan. The guidelines summarize items for the attention of employees when carrying out their work.

"Our Action Guidelines"

Establishing Production Section Commendation System

In fiscal 2004, we instituted a production section commendation system to promote manufacturing operations and raise ethical awareness, among the employees at a total of 61 production sections of the Ichihara Works (including the Mobara Center), Nagoya Works, Osaka Works, Iwakuni-Ohtake Works, Omuta Works, Hokkaido Mitsui Chemicals, Inc., and Shimonoseki Mitsui Chemicals, Inc. Commendation ceremonies were held at individual sites to present the President's Award, the Production & Technology Center Executive's Award, and the Excellent Plant Award. In fiscal 2005, the system will be expanded to cover domestic and overseas subsidiaries and affiliates.

Commendation ceremony for the President's Award

Commendation ceremony for the Production & Technology Center Executive's Award

Production section commendations

Name of award	Recipient site	Recipient section
President's Award	Iwakuni-Ohtake	Piping Manufacturing Section
	Mobara Center	Functional Materials Section
Production & Technology Center Executive's Award	Ichihara	Lexan Production Planning & Control Section
	Omuta	Organic Section No. 2
	Osaka	EO Section
(Special Award)	Osaka	Gem Polymers Ltd.
Excellent Plant Award	Hokkaido Mitsui Chemicals, Inc.	—

Cooperative Efforts with Labor Unions

Mitsui Chemicals and labor unions jointly hold meetings concerning business management and individual issues regularly to promote mutual understanding.

At such meetings of the EHS Forum for Labor and Management, labor and management exchange opinions about important topics. These include labor accident prevention and workplace stress and emphasize RC performance, annual plans, audit results and their efforts at individual sites. For safety activities, in particular, the two parties are making unified efforts at individual works and offices.

A meeting of the EHS Forum for Labor and Management

Comment from Manager

At the Human Resources Division, we are planning policies concerning human resources development and personnel allocation in line with the new personnel allocation system. At my position, I will provide programs to help our employees improve necessary knowledge and skills for their duties, in support of the new system.

Setsuko Takahashi
Human Resources Division

Efforts for RC at Subsidiaries and Affiliates

Mitsui Chemicals is proactively supporting the responsible care activities at its subsidiaries and affiliates (group companies), both in Japan and overseas.

Audits for Subsidiaries and Affiliates

Mitsui Chemicals conducts audits for its subsidiaries and affiliates concerning RC-related activities (environment, safety and quality). Extensive audits are conducted by the Affiliates Coordination Division and the Environment, Safety & Quality Division in charge of RC. They do the following: They include investigations and evaluations of current environment, safety and quality management; they provide advice and guidance concerning remedial measures for each company; they facilitate exchange of RC-related information; and they ensure sharing of information on excellent activities of individual companies. In fiscal 2003, a total of 33 subsidiaries or affiliates were audited.

Promoting Acquirement of International Certifications

The Mitsui Chemicals Group has promoted certification by the ISO 9001:2000 (quality) and ISO 14001 (environment) international standards at domestic and overseas group companies.

The following table shows the status of international certifications and RC audit results at group companies.

Exchanging Information with Subsidiaries and Affiliates

Various opinion exchange meetings are held for subsidiaries and affiliates to share RC-related information. Meetings are held regularly, twice a year, to provide information and exchange opinions concerning accident case reports. Regular safety review meetings are also held to discuss labor accidents, classified by type (processing-related and reaction-related accidents). At these meetings, subsidiaries, affiliates and Mitsui plant managers exchange information on their own preventive measures and discuss how to improve occupational safety activities. We announce our RC policies, annual plans and accident case reports. We also exchange information with our overseas subsidiaries and affiliates during RC audits.

Safety review meetings for group companies

Name of safety review meeting	Participating companies	Description
First meeting for processing plants	Mitsui Chemicals and 5 other companies	Accident case reports and safety measure status at individual companies Case reports on accidents in which workers are caught in machines at individual companies What has been learnt from potential accident cases at individual companies
Second meeting for processing plants	Mitsui Chemicals and 7 other companies	Accident case reports, opinion exchange, and safety measure reports at individual companies Exchanging opinions concerning prevention of labor accidents due to human error Plant tour at Sunrex Industry
Meeting for reaction plants	Honshu Chemical Industry, Ltd. Yamamoto Chemicals, Inc. Omuta Works of Mitsui Chemicals	Status of implementation of annual environmental and safety plans at individual companies Case reports of safety and environmental measures at individual companies Exchanging opinions concerning prevention of labor accidents due to human error Tour of Omuta Works
Meeting for individual plants	Tohcello Co., Ltd. Mitsui Chemicals	Status of implementation of annual environmental and safety plans at Tohcello and Mitsui Chemicals Case reports of safety and environmental measures at Tohcello and Mitsui Chemicals Group companies Exchange of opinions concerning prevention of labor accidents - Plant tour at Furukawa Factory of Tohcello

Status of international certifications and RC audit results at group companies

Country	Name of company	ISO9001	ISO14001	Audit category	Description
Japan	Sun Technochemicals Co., Ltd.	●	—	Quality	Reconsider the methods for thoroughly informing employees of environment and quality policies.
	Shimonoseki Mitsui Chemicals, Inc.	●	●	Quality	Determine quality specifications for accepted phosphoric acid and clarify quality-related responsibility.
				Environment, safety & quality	The RC system generally works well.
	Mitsui Fine Chemicals, Inc.	—	—	Quality	There are irregularities in new product developmental management.
	Mitsui Cytec, Ltd.	●	●	Quality	There are irregularities in new product developmental management.
	Sunrex Industry Co., Ltd.	●	Planned (FY 2005)	Environment & safety	Enhance education and guidance for section leaders to raise their awareness of night workplace management.
	Santo Chemicals	●	—	Environment & safety	Reconsider the policy for equipping anti-pinch/roll covers and implement upgraded measures.
	Sanchu Chemicals	●	—	Environment & safety	Reconsider the policy for equipping anti-pinch/roll covers and implement upgraded measures.
	Mitsui Kagaku Platech Co., Ltd.	●	Planned (FY 2004)	Quality	There are irregularities in the provision of material safety data sheets (MSDS).
				Environment & safety	Expand the coverage of KY meetings before start of work.
	Saxin Corporation	Planned (FY 2005)	Planned (FY 2006)	Quality	There are irregularities in new product developmental management.
				Environment & safety	Preventive measures against accidents prevalent in processing workplaces (cuts, pinch, lumbago) are taken steadily.
	Tohoku Uloid	—	—	Environment & safety	Procedures must be established for the non-ordinary tasks.
	Printec Co., Ltd.	●	●	Environment & safety	Environmental safety activities are vital with good ideas and plans.
	Hi-Sheet Industries, Ltd.	●	—	Quality	There are irregularities in new product developmental management.
				Environment & safety	Identify how safety measures have been taken at workplaces, and streamline the activities.
	Nippon Corrosion Resistant Material Co., Ltd.	—	—	Quality	Formulate policy on quality.
	Mitsui Chemical Industrial Products, Ltd.	●	Planned (FY 2005)	Environment & safety	Re-design exhaust and ventilation systems of plants and laboratory buildings.
	Hokkaido Mitsui Chemicals, Inc.	●	Planned (FY 2005)	Environment, safety & quality	We believe the zero-accident goal, including process accidents, labor accidents and commuting accidents, has greatly benefited safety activities.
	Kashima Factory of Mitsui Takeda Chemicals, Inc.	●	●	Auditing not performed in fiscal 2003	—
	Shimizu Factory of Mitsui Takeda Chemicals, Inc.	●	●	Auditing not performed in fiscal 2003	—
	Tokuyama Factory of Mitsui Takeda Chemicals, Inc.	●	●	Auditing not performed in fiscal 2003	—
	Toyo Beauty Supply Corporation	—	—	Auditing not performed in fiscal 2003	—
United States	Mitsui Chemicals America, Inc.	—	—	Quality	Plan and implement a review by directors (project managers).
	ACP	●	●	Quality	Quality management must be upgraded as a whole.
	ADC	●	Planned (FY 2005)	Auditing not performed in fiscal 2003	—
	ESCO	●	Planned (FY 2007)	Auditing not performed in fiscal 2003	—
Indonesia	MEC	Planned (FY 2005)	—	Environment, safety & quality	Institute educational programs for heritage of safety technology.
	AMI	●	Planned (FY 2005)	Environment, safety & quality	Implement the environment & safety management system of BP.
	PNR	Planned (FY 2006)	Planned (FY 2008)	Environment, safety & quality	Formulate rules concerning non-ordinary tasks.
	ARUKI	Planned (FY 2004)	—	Environment, safety & quality	Environment and safety managers are being educated (insufficient human resources at workplaces).
Thailand	EPS	●	●	Environment, safety & quality	Aggressive in introducing ISO 14001, TQC, etc.
	GSC	●	●	Environment, safety & quality	Japanese styles, including TPM and proposal systems, are adopted.
	SMPC	●	●	Environment, safety & quality	Already certified for ISO 9001 and other international standards and committed to RC.
	TMSC	●	Planned (FY 2004)	Environment, safety & quality	The incidence of labor accidents is high; conduct further efforts for occupational safety activities.
	MHM	●	Planned (FY 2005)	Auditing not performed in fiscal 2003	—
	TPRC	Planned	Planned	Auditing not performed in fiscal 2003	—
Singapore	MTK	●	●	Environment, safety & quality	Operating procedures are not sufficiently documented; improvements are necessary.
	MELS	●	Planned (FY 2005)	Environment, safety & quality	Despite the very recent start of operation in 2003, proactive efforts to improve Environment, safety and quality are appreciable.
	MBS/MPHS	●	—	Environment, safety & quality	The RC activities of the two companies have been substantially unified since 2003.

RC Activities at Domestic Subsidiaries and Affiliates — Printec Co., Ltd.

Located in the Amadera Industrial Park of Atsugi City, Kanagawa Prefecture, Printec Co., Ltd. serves as Mitsui Chemicals' base for supplying electronic and information materials to the market using chemical technology.

Printec acquired ISO 9001 certification in 1999 and ISO 14001 certification in 2002 to enhance its quality and environmental management. Additionally, the company was certified as a Green Partner by one of our major customers in 2003.

Quality Management

Printec devotes itself to improving product quality and business operations through team activities. These activities are promoted by setting forth annual issues and goals at individual workplaces. Results of the year's activities are evaluated by a panel of judges at company-wide meetings to report performance. Successful teams are rewarded to encourage further activities.

In the chemical industry, "keenly," "quickly," and "accurately" are often referred to as keywords for quality management. Printec's action guidelines specify the themes of quality management, responding to complaints, and immediate action. Printec is seeking precision processing technology at micrometer levels while repeating a cycle of process management and constant revision of inspection procedures, in order to quickly respond to the changing demands of the market.

Company-wide meeting to report quality performance

Management of Substances under Environmental Regulations

Printec is implementing a project for management and the eventual complete removal of substances under control of environmental regulations. The project targets lead-free solder and halogen-free materials in the company's products. It is concentrating its energies on sorted collection and recycling of waste. General wastes from workplaces are sorted by each employee into general combustibles, recyclable paper, plastics, and cans/bottles. Pieces of industrial waste from production sites are sorted into base materials, metals (gold, copper), plastics and others. The sorted fractions go under central management at a dedicated warehouse in the company. Valuable articles are sold to commercial collectors and useless waste is transferred to approved contractors. This system contributes significantly to increasing the recovery of valuable articles and reducing waste volume.

Sorted collection warehouse

Sorted collection notices (trash boxes at each workplace)

Safety Management

On July 1, the starting day of Japan's National Safety Week, we hold a safety meeting with a safety slogan contest. A commendation ceremony is held for the best slogans and accident-free operations.

The key to prevention of accidents due to human errors resides in strict compliance with the company rules and instructions and guidance by safety patrols. To this end, we are striving to ensure workplace safety checks and safety meetings. Based on annual plans, monthly goals are set to prioritize safety inspections. These activities are followed by the President's company-wide safety patrol conducted every month.

Safety meeting on July 1

Safety patrol

Visiting Overseas Manufacturing Site

On May 17, 2004, the Iwakuni-Ohtake Works dispatched young leaders of its production teams for a one-week overseas production site visiting tour. This tour was held as part of our operator education program to help the participants realize the globalization of our business activities through plant tours and discussions at an overseas production site, and to encourage them to lead the manufacturing operations at their own site after their return home.

Yasuaki Sakaguchi, Shoji Tanoue and Katsuya Furusawa, team leaders of the Production Division of the Iwakuni-Ohtake Works, visited SMPC, TPRC, and MHM in Thailand. They were deeply impressed by the youth and high aspirations of the operators of the Thai companies. They said, "The plant operation and safety technologies here will come level with ours in the near future." These factories in Thailand are conducting efforts to reach the levels of our works in Japan. The participants were forced to admit that Mitsui Chemicals' domestic works must strive to upgrade their efforts, after the example of the overseas advanced factories.

Visiting the Factory of MHM

RC Activities at Overseas Subsidiaries and Affiliates

— EPS (Eternal Plastics Co., Ltd., Thailand)

At EPS, all employees are positively involved in various teamwork activities, including cost reductions, annual goal setting and the following RC-related activities.

Big Cleaning Day (clean-up activities)

All employees, including the President, completely clean up the entire factory area every three months. Any environmental faults or irregularities found are remedied as soon as possible.

Big Cleaning Day

Breakthrough for the excellent team (Improving communication capability)

Employees' communication capability is enhanced through educational meetings and recreational activities to prevent plant troubles and customers' claims associated with defective communication. This program is held twice a year with the participation of all employees.

Breakthrough training session

Sharing Awareness of Potential Accident Cases

Near-accidents cases arising during business operation at each group are reported to all employees to help keep hazard awareness high. This meeting is held every month and attended by all personnel of the factory.

Potential accident case report meeting

— Mitsui Bisphenol Singapore Pte. Ltd. and Mitsui Phenol Singapore Pte. Ltd.

Mitsui Phenol Singapore Pte. Ltd. (MPHS) produces phenol and acetone, and Mitsui Bisphenol Singapore Pte. Ltd. (MBS) produces bisphenol A (used mainly as a raw material for polycarbonate resin). MPHS and MBS are also engaged in marketing of their products in the Asian area. A total of about 150 employees and production contractors' employees work at the two companies.

In 2004, the two companies set about integrating their activities to promote environmental preservation and occupational safety and health. Various events have been held under the leadership of the integrated Health, Safety and Environment (HSE) team to boost this effort.

Members of the HSE team

Issuing In-house Magazine "SKY"

An in-house magazine called "SKY" focusing on occupational safety and health is issued semi-annually to facilitate mutual communication among employees. Topics include messages from top management and employees, drills for disaster prevention, internal awards for safety performance, and various events.

In-house Magazine "SKY"

Safety Slogan Shouting Contest

Pairs of recommended employees from individual working teams "shout" safety slogans in front of a panel of judges and audience. The best pair is selected on the basis of ratings in terms of loudness, clarity and synchronism. Through this activity, the employees' awareness of occupational safety is raised and they are motivated to improve their teamwork.

Safety slogan shouting contest

Panel of judges for the contest

Safety Quiz Contest

Sixteen teams from the two companies participate in the contest and answer questions about safety. Four successful teams go into the finals. Through this contest, both the participants and audience are expected to gain more knowledge about occupational safety and health and make use of it in their daily work.

Safety quiz contest

Communication with Society

We endeavor to disclose all pertinent information to maintain good communication with all our stakeholders. Activities involving members of local communities are a key part of this.

■ Regional Communication Activities at Our Works

As a member of the regional community, we want to contribute to the development of regions around our works through various efforts, including plant tours, volunteer activities, lending facilities for events sponsored by our works and regional activities, participating in regional councils, providing lecturers for external training sessions, issuing public relations magazines, and responding to complaints.

Omuta Works

All the employees at our works are required to take part in efforts for environmental preservation, such as environmental load reductions and industrial waste reductions, as well as activities upholding occupational safety and health and product quality. We will work to enhance communication with local communities to promote mutual understanding.

Plant Manager: Ryoichi Konishi

Visiting experimentation at elementary school

Opinion exchange meeting with neighborhood associations

1. Visiting Experimentation at Elementary Schools

We visit elementary schools in Omuta with experimental materials and conduct demonstrative experiments. Students are astonished at the "magic" of chemistry when they watch first-hand the dramatic foaming of urethane and the water absorption capability of absorbing polymers.

2. Opinion Exchange Meetings with Neighborhood Associations

We hold opinion exchange meetings, including plant tours, with five neighborhood associations around the Omuta Works regularly, and listen to their frank opinions concerning environment, safety and other issues. Additionally, representatives of the neighborhood associations contribute articles to our public relations magazine Tokayama.

Osaka Works

At the Osaka Works, all employees are involved in activities to strengthen its competitive capacity and promote reformation of factory culture. In order to reform the dominant culture, they must improve their expertise, enhance their knowledge and skills, cope with issues concerning the environment, safety and quality, and commit to carry out the plan, do, check, and act (PDCA) procedures.

General Manager: Yoshiyuki Funakoshi

1. Mitsui Volunteer Network Center

On October 18, 2003, the Mitsui Volunteer Network Center (54 members) conducted the Nishikinohama Beach Clean-up Campaign. A total of 207 employees, including retired employees from the Mitsui Chemicals Osaka Friendship Club, joined the event to restore the beauty of the beach.

2. Plant Tours for Elementary School Students

In fiscal 2003, we held three plant tours for elementary school students, with the participation of a total of 260 students. In addition to general explanations of the plant, our environmental measures and chemical product applications, we conducted demonstrations to teach the wonders and the fascination of chemistry.

Mitsui Volunteer Network Center

Plant tour for elementary school students

Iwakuni-Ohtake Works

We are conducting daily efforts to produce environmentally friendly products, with emphasis on harmony with the environment, and coexistence and Co-prosperity with local society. We will strive to earn more social trust by building a cutting-edge facility which imposes the lowest possible burden on the environment.

General Manager: Kenji Yoshimura

JRCC Regional Explanatory Meeting

Eleven trainees of JICA

1. Participation in JRCC Regional Explanatory Meetings

The Japan Responsible Care Council (JRCC) holds regional explanatory meetings throughout Japan in regions where petrochemical complexes are located in order to explain the concepts and practices of responsible care to local citizens. On March 26, 2004, we held a plant tour and panel discussion with the attendance of Assistant Professor Kenichi Togawa from Kyushu University.

2. Accepting Trainees of Japan International Cooperation Agency (JICA)

On October 10, 2003, as part of our project for international cooperation in the environmental field, we provided a training program for 11 students of JICA's Southeast Asian Area Anti-pollution Administration Course at various plants in the Iwakuni-Ohtake Works. Amid the growing interest in the environment, we have accepted a total of 33 trainees from abroad since 1995. After returning home, almost all of them took leadership in environmental efforts in their own countries.

Nagoya Works

The Nagoya Works is making every effort to improve its activities concerning the environment, safety and quality, so as to become Mitsui Chemicals' main supplier of functional materials. its management is determined to contribute to the development of local communities and to be open to the general public.

General Manager: Shusuke Yamanaka

1. Plant Tours

In fiscal 2003, we held four plant tours for women's associations and two plant tours for students. A total of 137 people visited our works.

Plant tour

2. Softball Games Sponsored by Nagoya Works

On May 23, 2003, we sponsored the 26th six-school-area friendship softball game meet at Mitsui Chemicals' Takiharu Ground, joined by a total of 180 players and supporters. After a hardbattle, the teams representing the Honan School Area won the championship in the boys' and girls' categories.

Softball game

Ichihara Works

General Manager:
Isamu Takeuchi

We are working to make steady improvements in our environmental record, safety and quality under the themes of reducing environmental load, sincere safety activities and transparent, easily understandable quality management. Our goal is to create the innovations that drive sustainable growth.

Participants of inter-site respirator donning competition

1. Participating in Inter-site Respirator Donning Competition

Our team won the championship at the 27th Inter-site Respirator Donning Competition held on October 15, 2003.

Plant tour

2. Plant Tours and Opinion Exchange Meetings

In fiscal 2003, a total of 228 plant tours were held with the participation of 1,485 visitors. Plant tours with opinion exchange meetings concerning the environment were also held for foreign students of the Tokyo Institute of Technology and the Techno-Pyramid Team of the Commerce, Industry and Labor Department, Chiba Prefecture.

Sodegaura Center

Akihiro Yamaguchi
Center Executive,
R & D Center

At the Sodegaura Center, all employees are involved in environmental and safety activities in the recognition that such activities are an integral part of their research work. As advocated in our corporate philosophy, we are also developing environmentally friendly technologies and products and seeking to earn trust from local communities.

1. One-day Fire Chief

On November 15, 2003, Mr. Urakawa of the Polymerization Catalysis Group served as a one-day fire chief in the Sodegaura Fire Service Event. With the assistance of fire brigade members, he taught the importance of disaster prevention activities to local residents who visited booths for experience-based learning (firefighting, hose control, smoke, first aid treatment) at the Sodegaura Park Event Plaza.

2. Cleaning up Beach Areas

To facilitate local environmental preservation, and also to raise its awareness among local residents and employees at our center, we conduct cleaning activities on a regular basis in cooperation with the Sodegaura City Government and neighboring companies. In fiscal 2003, a total of 128 employees participated in four events to clean up beach areas. Once the beaches had been cleaned, people left less litter there afterward.

One-day fire chief

Cleaning up beach areas

Mobara Center

General Manager:
Seiya Iguchi

The Mobara Center is located at the center of the Boso Peninsula. An urban chemical factory, it produces paint, printing toner ingredients and other chemicals. We seek to create a leading factory in the manufacture of functional materials. We will do our best to maintain the highest standards for our environmental programs, process safety and product quality, and we will maintain harmony with local communities.

Mobara City *Tanabata* Festival

1. Participating in Mobara City *Tanabata* Festival

A party of 135 employees participated in Mobara City *Tanabata* Festival and put on a splendid dancing performance. They had practiced hard during breaks from work. The team received the Mobara Chamber of Commerce and Industry Chairman's Award.

Cleaning volunteer activities

2. Cleaning Volunteer Activities

At the Mobara Center, about 60 employees participate in the "Clean Volunteer" cleaning-up campaign for monthly activities to pick up litter and weed around the site. Neighboring residents often stop to thank them for their efforts, which is a real encouragement to the participants.

■ Issuing Public Relations Magazines

In order to encourage local people to understand the activities at our works and promote communication with local communities, public relations magazines are issued at least twice a year at each works.

PR magazines issued at Mitsui Chemicals' works

■ Responding to Complaints

In addition to regular discussions, our works are striving to respond quickly to complaints made from time to time, and to preserve complete accountability.

Examples of complaints and responses

Works	Description of complaint	Response
Osaka	Complaints of excessive flames from flare stack were voiced.	· Excessive flames due to equipment failures were remedied by refurbishing the equipment. · For excessive flames due to improper gas release during preliminary operations, standard operating procedures were generated to ensure appropriate adjustment.
Omuta	Complaints of noise from hammering at a contractor's work site were voiced.	· The door on the road side was closed during hammering. · Hammering of piping was discontinued.

Recognition for RC Activities

The Mitsui Chemicals Group has received various awards both at home and abroad for our broad range of RC activities, including environmental preservation and technical innovations.

■ Omuta Works Receives the Energy Conservation Center Secretary-General's Prize

The Omuta Works received the Energy Conservation Center Secretary-General's Prize at the 2003 National Meeting of Energy Conservation Commendation. It was praised for its results in energy conservation and cost reductions through improvements in combustion efficiency. The combustion efficiency of the heavy oil boiler in the Utility Department was improved with a new type of burner tip, and the works now produces its own electricity for the night-time power load . We will conduct further case investigations and efforts for energy conservation.

Presentation ceremony

■ SMPC Receives the National Safety Award

SMPC received the National Excellent Safety Work Place Award from Thailand's Ministry of Labour for its policy management system for overseeing equipment to protect the environment and occupational safety and health. This was for the second consecutive year and the third time in total, reflecting the company's steady efforts to improve its system with acquirement of ISO 14001 certificate in 2001 and TIS 18001 certification in 2002. We will streamline our system, and work to further improve the working conditions.

Receiving the National Safety Award

List of external awards

Date	Recipient(s)	Award	Achievement	Sponsor
May 2003	Omuta Factory of Kyushu Industrial Gas Inc. Omuta Factory of Mitsui Toatsu Inorganic Chemicals, Inc.	Long-time Zero-accident Commendation	5 consecutive years without an accident	Omuta Labour Standards Association
May 2003	SMPC	National Safety Award	Excellent safety management system and results	Thailand's Ministry of Labor
June 2003	TMSC: Samutprakarn Factory	Honourable Shield	Support and sponsoring for schools	Thailand's Ministry of Education
July 2003	Omuta Works Omuta Factory of Mitsui Takeda Chemicals, Inc.	Prime Minister's Commendations on Contributors to Public Safety	Disaster prevention and safety activities as a member of the Omuta City Factory Fire Prevention Association (12 member companies)	Japan's Prime Minister
July 2003	Tokuyama Factory of Mitsui Takeda Chemicals, Inc.	Excellent Factory Award, Chairman's Commendation of Tokuyama Labour Standards Association	Excellent occupational safety performance	Tokuyama Labour Standards Association
July 2003	MBS, MPHS	Annual Safety Performance Awards	Operation without an accident or dangerous leak and conduct of safety activities	Singapore's Ministry of Labor
October 2003	ESCO	SOCMA 2003 Responsible Care Achievement Award	Excellent results in self-evaluation in compliance with the Responsible Care Standards of the US Synthetic Organic Chemical Manufacturers Association	US Synthetic Organic Chemical Manufacturers Association
December 2003	Ichihara Works	Third Class Award: Certificate of Accident-Free Hours	12 million consecutive hours without an accident	Ministry of Health, Labor and Welfare, Japan
January 2004	MEC Safety Committee	Recognition of activities and effectivities in FY 2003	Accomplishment of the zero-accident, zero-disaster goal by excellent safety activities	Cilegon City (Indonesia)
February 2004	Kyushu Fine Chemicals, Inc.	Fukuoka Comfortable Workplace Promotion Award	Excellent results in efforts to create comfortable workplaces, especially anti-smoking measures	Fukuoka Federation of Labour Standards Associations
February 2004	Omuta Works	Energy Conservation Center, Japan (Foundation) Chairman's Award	Excellent results in energy conservation and cost reductions through combustion efficiency improvements to the utility boiler	Japan's Ministry of Economy, Trade and Industry
February 2004	Iwakuni-Ohtake Works	Second Class Award: Certificate of Accident-Free Hours	8 million consecutive hours without an accident	Ministry of Health, Labor and Welfare
March 2004	Sanchu Chemicals, Inc.	Second Class Award: Certificate of Accident-Free Hours	1,600 consecutive days without an accident	Japan Industrial Safety and Health Association
March 2004	Shimonoseki Mitsui Chemicals, Inc.	First Award Category: TPM Continual Excellency Award	Management system with TPM activities	JIPM

SMPC: SIAM MITSUI PTA CO.,LTD.
TMSC: THAI MITSUI SPECIALTY CHEMICALS CO.,LTD.
MBS: MITSUI BISPHENOL SINGAPORE PTE.LTD.
MPHS: MITSUI PHENOL SINGAPORE PTE.LTD.
ESCO: ESCO COMPANY LIMITED PARTNERSHIP
MEC: P.T.MITSUI ETERINDO CHEMICALS

Economic Activities

Economic Report

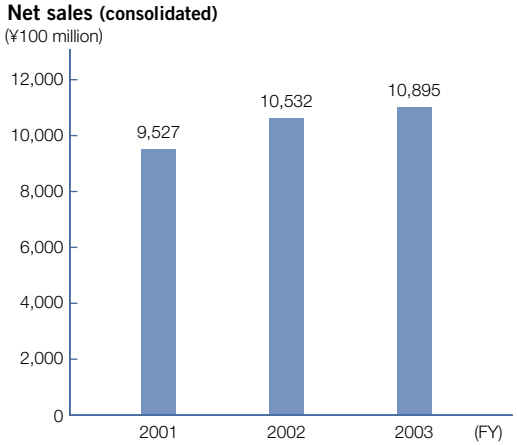
With the key concept of "Shift from Commodities to Specialties," the Mitsui Chemicals Group has formulated a new four-year medium-term business plan starting in fiscal 2004. We will steadily implement the strategies of the plan toward sustainable development.

Financial Highlights

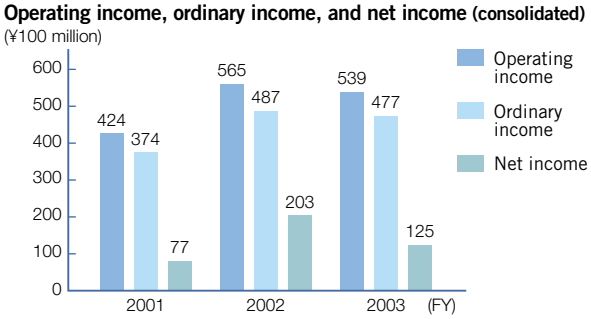
On a consolidated basis, the Mitsui Chemicals Group attained net sales of ¥1,089.5 billion in fiscal 2003, showing an increase of ¥36.3 billion compared to the previous year, thanks mainly to product price rises and the quantitative effect of newly started commercial operation of manufacturing plants for basic chemical products in Southeast Asia. However, as a result of increases in sales costs due to upswings in prices of fuels and naphtha and other raw materials, the consolidated operating income decreased ¥2.6 billion to ¥53.9 billion compared to the previous year.

Regarding consolidated ordinary income, non-operating expenditures decreased thanks to lower interest payments after a compression of interest-bearing debts and completion of a long-time inventory cycle. The Mitsui Chemicals Group recorded an ordinary income of ¥47.7 billion, ¥1.0 billion lower than the previous year. The loss from liquidation of fixed assets associated with the scrap-and-build of the polypropylene manufacturing equipment of the Osaka Works and the loss from related business operations, retirement allowances and others were reckoned up as special losses. Accordingly, this term's net income amounted to ¥12.5 billion, a decrease of ¥7.8 billion compared to the previous year.

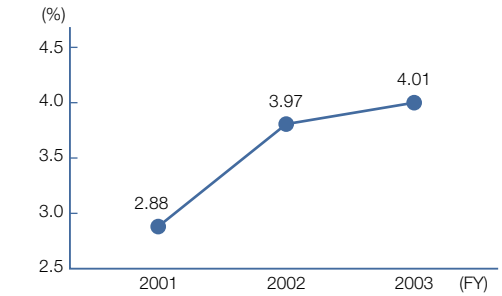
Net sales (consolidated)



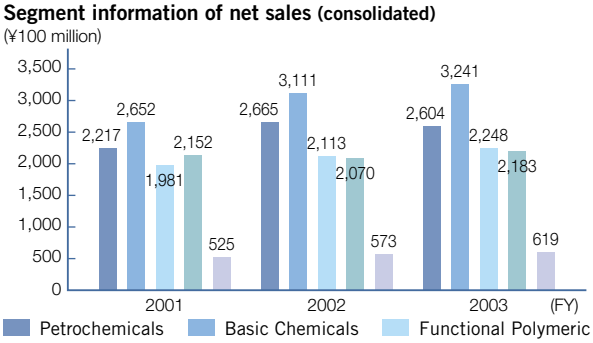
Operating income, ordinary income, and net income (consolidated)



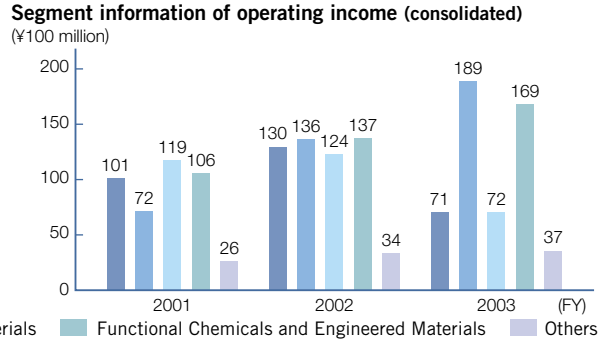
ROA (consolidated)



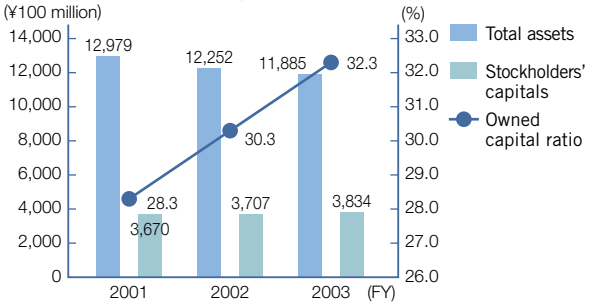
Segment information of net sales (consolidated)



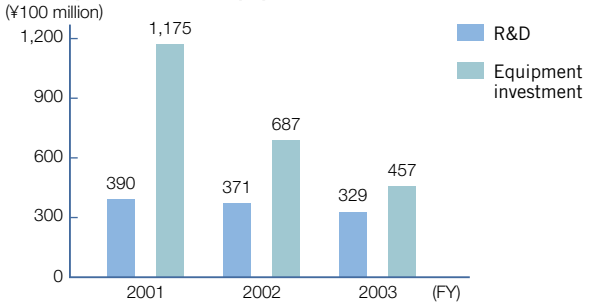
Segment information of operating income (consolidated)



Total assets, stockholders' capitals, and owned capital ratio (consolidated)



R&D expenditures and equipment investment (consolidated)



Data Sheets
Site Reports

Ichihara Works

Ichihara Works went into operation in March 1967. It is a comprehensive, self-contained petrochemical factory , with an ethylene plant at its center. Supplied feedstock materials are processed into various resins and their derivatives.

Location: 3, Chigusa-kaigan, Ichihara, Chiba 299-0108
Area: 1,390,000m²
Major products

Petrochemicals:
Olefin, aromatic hydrocarbons, polyethylene, polypropylene, and TBA
Basic chemicals:
Phenol, BPA, acetone, epoxy resin, ethylene oxide, ethylene glycol, and aniline
Functional polymeric materials:
Elastomers
Functional chemicals and engineered materials:
Synthetic pulp

Total calorific value of fuels (GJ)	31,709,000
Purchased electricity (GWh)	323
Total purchased gases (million Nm³)	181
Purchased raw materials (thousand tons)	1,878
Purchased materials (thousand tons)	2.0
Tap water (million m³)	0
Underground water (million m³)	0.2
Industrial water (million m³)	25.3
Seawater (million m³)	298

Ichihara Works

Products (thousand tons)	3,533
Paid electricity (GWh)	30
Purchased fuel for heating (GJ)	2,650,050
CO_2 (tons)	2,031,300
NOx (tons)	1,256
SOx (tons)	275
Air pollutants (tons)	1
VOCs (tons)	1,181
Dust (tons)	49
External recycling (thousand tons)	5.1
External final disposal (landfill) (thousand tons)	1.0
COD (tons)	101
T-N (tons)	44
T-P (tons)	4
Treated water (million m³)	8
Released water (million m³)	324

Nagoya Works

The Nagoya Works was founded as Japan's first factory of vinyl chloride. Now it produces basic chemicals, functional polymers, other functional chemicals and engineered materials.

Location: 2-1, Tangodori, Minami-ku, Nagoya 457-8522
Area: 380,000m²
Major products

Basic chemicals:
Bisphenol A and nonylphenol
Functional polymeric materials:
Polyacrylonitrile resin, special phenolic resin, engineering plastic films, and polyimide products
Functional chemicals and engineered materials:
Surgical suture material (PGA), breathable films, surface-protective tapes, flexible printed circuit materials, and sputtering products

Total calorific value of fuels (GJ)	1,963,000
Purchased electricity (GWh)	37
Total purchased gases (million Nm³)	5
Purchased raw materials (thousand tons)	166
Purchased materials (thousand tons)	31
Tap water (million m³)	0
Underground water (million m³)	0
Industrial water (million m³)	7.3
Seawater (million m³)	0

Nagoya Works

Products (thousand tons)	164
Purchased electricity (GWh)	0
Purchased fuel for heating (GJ)	25,100
CO_2 (tons)	199,800
NOx (tons)	63
SOx (tons)	13
Air pollutants (tons)	4
VOCs (tons)	67
Dust (tons)	33
External recycling (thousand tons)	7.3
External final disposal (landfill) (thousand tons)	2.6
COD (tons)	92
T-N (tons)	13
T-P (tons)	1
Treated water (million m³)	1
Released water (million m³)	7

Mobara Center

The Mobara Center was a pioneer project, a factory for comprehensive production of chemical products with the raw material of natural gas. Now it serves as a production center for high-performance chemical products such as functional polymers and electronic materials.

Location: 1900, Togo, Mobara, Chiba 297-8666
Area: 550,000m²
Major products

Basic chemicals:
Formalin, surfactants, and flocculants
Functional polymeric materials:
Methacrylamide, acrylamide, unsaturated polyester resin, functional adhesives, coating resins, and paper processing resin
Functional chemicals and engineered materials:
Toner binders

Total calorific value of fuels (GJ)	639,000
Purchased electricity (GWh)	41
Total purchased gases (million Nm³)	0.3
Purchased raw materials (thousand tons)	85.0
Purchased materials (thousand tons)	1.0
Tap water (million m³)	0
Underground water (million m³)	1
Industrial water (million m³)	1
Seawater (million m³)	0

Mobara Center

Products (thousand tons)	73.0
Purchased electricity (GWh)	9
Purchased fuel for heating (GJ)	0
CO_2 (tons)	51,600
NOx (tons)	9
SOx (tons)	65
Air pollutants (tons)	0
VOCs (tons)	5
Dust (tons)	2
External recycling (thousand tons)	1.5
External final disposal (landfill) (thousand tons)	0.02
COD (tons)	13
T-N (tons)	24
T-P (tons)	2
Treated water (million m³)	1
Released water (million m³)	1

Osaka Works

The Osaka Works produces petrochemicals, basic chemicals, functional polymers, functional chemicals, and engineered materials using large petrochemical and ammonia plants.

Location: 1-6 Takasago, Takaishi, Osaka 592-8501
Area: 1,550,000m²
Major products

Petrochemicals:
Olefin, aromatic hydrocarbons, TBA, and polypropylene
Basic chemicals:
Ammonia, urea, BPA, phenol, formalin, melamine, acrylonitrile, ethanolamine, acrylamide, IPA, ethylene oxide, and ethylene glycol
Functional chemicals and engineered materials:
Silane gas

Total calorific value of fuels (GJ)	27,647,000
Purchased electricity (GWh)	309
Total purchased gases (million Nm³)	151
Purchased raw materials (thousand tons)	1,296
Purchased materials (thousand tons)	4
Tap water (million m³)	0
Underground water (million m³)	0
Industrial water (million m³)	23
Seawater (million m³)	74

Osaka Works

Products (thousand tons)	2,060
Purchased electricity (GWh)	0
Purchased fuel for heating (GJ)	407,000
CO_2 (tons)	1,919,900
NOx (tons)	1,077
SOx (tons)	52
Air pollutants (tons)	35
VOCs (tons)	175
Dust (tons)	85
External recycling (thousand tons)	8.9
External final disposal (landfill) (thousand tons)	1.4
COD (tons)	417
T-N (tons)	1,206
T-P (tons)	8
Treated water (million m³)	11
Released water (million m³)	87

Iwakuni-Ohtake Works

The Iwakuni-Ohtake Works went into operation as Japan's first comprehensive petrochemical factory in April 1958. Later, production of general-purpose olefinic petrochemical products was transferred to the Ichihara Works. Now, the works is on way to becoming a dedicated facility for fine chemicals. Currently, its main product is highly pure terephthalic acid, a raw material for synthetic fibers, and PET resin for bottles.

Location: 6-1-2 Waki, Waki-cho, Kuga-gun, Yamaguchi 740-0061
Area: 1,000,000m^2
Major products

Basic chemicals:
Purified terephthalic acid, hydroquinone, resorcinol, meta/para-cresol, PET resin, and MIBK
Functional polymeric materials:
Wax, petroleum resin, Lucant™, TPX™, Million™, Apel™, and Arlen™
Functional chemicals and engineered materials:
Gas pipes, pellicle, and olefin polymerization catalyst

Total calorific value of fuels (GJ)	9,092,000
Purchased electricity (GWh)	199
Total purchased gases (million Nm³)	0
Purchased raw materials (thousand tons)	941
Purchased materials (thousand tons)	2
Tap water (million m³)	0
Underground water (million m³)	0
Industrial water (million m³)	35
Seawater (million m³)	55

Iwakuni-Ohtake Works

Products (thousand tons)	987
Purchased electricity (GWh)	92
Purchased fuel for heating (GJ)	1,357,000
CO_2 (tons)	793,600
NOx (tons)	743
SOx (tons)	408
Air pollutants (tons)	32
VOCs (tons)	4,469
Dust (tons)	75
External recycling (thousand tons)	3.8
External final disposal (landfill) (thousand tons)	2.8
COD (tons)	455
T-N (tons)	72
T-P (tons)	10
Treated water (million m³)	12
Released water (million m³)	86

Sodegaura Center (Laboratories)

The Sodegaura Center is Mitsui Chemicals' R&D base, consisting of seven laboratories. A total of about 1,000 researchers, including subsidiaries and affiliates, are working to create new products and technologies that will contribute to a more comfortable society.

Location: 580-32, Nagaura, Sodegaura. Chiba 299-0265
R&D organizations

Polyolefin Laboratory:
Polyethylene, polypropylene, and their blends and processed products
Functional Polymeric Materials Laboratory:
Functional polymeric materials and their blends and processed products
Functional Materials Laboratory:
Electronic circuit materials, semiconductor materials, display materials, data recording materials, and sanitation materials
Functional Chemicals and Engineered Materials Laboratory:
New agrochemical innovations, plant breeding, health care materials, and fine chemicals
Catalysis Science Laboratory:
Compound design to development of catalysts and catalytic reaction basic processes
Materials Science Laboratory:
Invention of new high-performance products, from molecules to complexes
Process Technology Laboratory:
Industrialized technology in chemistry

Total calorific value of fuels (GJ)	81,600
Purchased electricity (GWh)	43.4
Total purchased gases (million Nm³)	3.00
Purchased raw materials (thousand tons)	0.00
Purchased materials (thousand tons)	0.00
Tap water (million m³)	0.08
Underground water (million m³)	0.00
Industrial water (million m³)	0.00
Seawater (million m³)	0.00

Sodegaura Center

Products (thousand tons)	0
Purchased electricity (GWh)	0
Purchased fuel for heating (GJ)	0
CO_2 (tons)	18,400
NOx (tons)	0
SOx (tons)	0
Air pollutants (tons)	0
VOCs (tons)	0
Dust (tons)	0
External recycling (thousand tons)	0.07
External final disposal (landfill) (thousand tons)	0.03
COD (tons)	0.33
T-N (tons)	0.32
T-P (tons)	0.01
Treated water (million m³)	0.06
Released water (million m³)	0.06

Omuta Works

The Omuta Works went into operation in 1912. Since then, it had been in active operation as a coal complex based on by-products from the coke ovens of Mitsui Mining Company up to the mid-1960s. Now, it is the Mitsui Chemicals Group's core factory. Mainly, it produces functional chemicals and engineered materials, making use of its organic synthesis technology.

Location: 30, Asamuta-cho, Omuta, Fukuoka 836-8610
Area: 2,260,000m^2
Major products

Basic chemicals:
Caustic soda and hydrochloric acid
Functional polymeric materials:
Urethane raw materials
Functional chemicals and engineered materials:
Monomers for spectacle lenses, amino acids, surfactants, special polar solvents, heat-sensitive paper materials, resin additives, dyes/pigments, functional colorants, taurine, Trebon™ (insecticide), Starkle™ (insecticide), Nebijin™ (fungicide), chloropicrin (fungicide), and pharmaceutical intermediates

Total calorific value of fuels (GJ)	7,884,000
Purchased electricity (GWh)	241
Total purchased gases (million Nm³)	0
Purchased raw materials (thousand tons)	442
Purchased materials (thousand tons)	5
Tap water (million m³)	0.4
Underground water (million m³)	0.0
Industrial water (million m³)	10.4
Seawater (million m³)	0.0

Omuta Works

Products (thousand tons)	728
Purchased electricity (GWh)	12
Purchased fuel for heating (GJ)	29,000
CO_2 (tons)	796,100
NOx (tons)	829
SOx (tons)	20
Air pollutants (tons)	21
VOCs (tons)	611
Dust (tons)	36
External recycling (thousand tons)	18.6
External final disposal (landfill) (thousand tons)	13.6
COD (tons)	665
T-N (tons)	510
T-P (tons)	5
Treated water (million m³)	19.3
Released water (million m³)	17.9

PRTR Data (only substances with an annual usage of 1 ton or more are listed)

(tons/year, mg-TEQ/year for dioxins)

Ichihara Works

Name of substance	Ministerial ordinance designation number	Released into air	Released into water	Released to land	Transfer amount
Zinc compounds (water-soluble)	1	0.000	0.473	0.000	6.118
Aniline	15	0.341	0.000	0.000	0.000
2-Aminoethanol	16	0.000	0.000	0.000	0.000
Antimony and its compounds	25	0.000	0.000	0.000	23.539
Bisphenol A	29	0.000	0.003	0.000	33.120
Ethylbenzene	40	0.003	0.000	0.000	0.000
Ethylene oxide	42	1.388	0.000	0.000	0.000
Ethylene glycol	43	0.048	0.000	0.000	93.121
Epichlorohydrin	54	2.343	0.000	0.000	0.000
Xylene	63	3.590	0.004	0.000	0.000
Cresol	67	0.000	0.000	0.000	0.000
Vanadium pentoxide	99	0.000	0.000	0.000	2.837
Cyclohexylamine	114	0.000	0.000	0.000	0.000
Diphenylamine	159	0.000	0.000	0.000	0.000
N,N-Dimethylformamide	172	0.000	0.000	0.000	0.000
Styrene	177	0.001	0.000	0.000	0.000
Tetrachloroethylene	200	0.080	0.020	0.000	0.000
Toluene	227	12.487	0.004	0.000	0.000
Hydrazine	253	0.000	0.000	0.000	0.158
Phenol	266	0.374	0.114	0.000	0.000
1,3-Butadiene	268	0.000	0.000	0.000	0.000
Hydrogen fluoride and its water-soluble salts	283	0.000	8.664	0.000	0.180
Benzene	299	6.122	0.007	0.000	0.000
Boron and its compounds	304	0.000	7.089	0.000	0.000
α-Methylstyrene	335	0.055	0.000	0.000	0.000
Dioxins	179	20.000	1.400	0.000	28.000

Mobara Center

Name of substance	Ministerial ordinance designation number	Released into air	Released into water	Released to land	Transfer amount
Acrylamide	2	0.000	0.000	0.000	0.015
Acrylic acid	3	0.000	0.000	0.000	0.506
Ethyl acrylate	4	0.020	0.000	0.000	0.756
n-Butyl acrylate	4	0.000	0.000	0.000	0.875
Methyl acrylate	6	0.000	0.000	0.000	0.043
Acrylonitrile	7	0.119	0.000	0.000	0.000
Ethylene glycol	43	0.000	0.000	0.000	1.268
Epichlorohydrin	54	0.002	0.000	0.000	0.906
ε-Caprolactam	61	0.000	0.000	0.000	0.046
Xylene	63	0.055	0.000	0.000	32.675
Styrene	177	0.392	0.000	0.000	16.948
Terephthalic acid	205	0.000	0.000	0.000	3.184
Toluene	227	0.063	0.000	0.000	6.862
Nonylphenol	242	0.000	0.000	0.000	0.048
Formaldehyde	310	0.000	0.000	0.000	47.297
Phthalic anhydride	312	0.001	0.000	0.000	20.737
Maleic anhydride	313	0.001	0.000	0.000	20.509
Methacrylic acid	314	0.000	0.000	0.000	0.258
Methyl methacrylate	320	0.000	0.000	0.000	2.269
Methacrylonitrile	321	0.000	0.000	0.000	0.000
Methyl-1,3-phenylene diisocyanate	338	0.000	0.000	0.000	0.204

Nagoya Works

Name of substance	Ministerial ordinance designation number	Released into air	Released into water	Released to land	Transfer amount
Methyl acrylate	6	0.006	0.059	0.000	1.231
Acrylonitrile	7	0.936	0.610	0.000	23.982
Bis(2-ethylhexyl) adipate	9	0.000	0.000	0.000	0.000
2,2'-Azobisisobutyronitrile	13	0.000	0.000	0.000	0.000
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl -isocyanate	27	0.000	0.000	0.000	0.000
Bisphenol A	29	0.184	0.009	0.000	0.000
Polymerization condensation product of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (also called bisphenol A type epoxy resin) (liquid only)	30	0.000	0.000	0.000	0.921
Ethylbenzene	40	0.000	0.000	0.000	0.001
Ethylene oxide	42	1.228	1.035	0.000	0.000
1,2-Epoxypropane (also called propylene oxide)	56	33.977	0.821	0.000	0.000
Xylene	63	0.000	0.000	0.000	0.001
1,4-Dioxane	113	0.086	0.000	0.000	0.000
Dichloromethane (also called methylene chloride)	145	1.327	0.145	0.000	15.688
N,N-Dimethylformamide	172	0.032	0.215	0.000	1.510
Styrene	177	0.642	0.002	0.000	0.761
1,3,5-Trimethylbenzene	224	0.491	0.000	0.000	2.340
Toluene	227	0.193	0.000	0.000	94.378
Nonylphenol	242	0.000	0.003	0.000	0.000
Phenol	266	1.613	0.000	0.000	0.000
Bis(2-ethylhexyl) phthalate	272	0.004	0.000	0.000	29.462
Benzaldehyde	298	0.018	0.000	0.000	0.000
Poly(oxyethylene) alkyl ethers (only those having 12 to 15 carbon atoms in their alkyl group, and mixtures thereof)	307	0.000	0.000	0.000	1.476
Formaldehyde	310	0.080	0.000	0.000	0.000
n-Butyl methacrylate	319	0.002	0.000	0.000	0.000
Methyl-1,3-phenylene diisocyanate (also called m-tolylene diisocyanate)	338	0.000	0.000	0.000	0.251

Osaka Works

Name of substance	Ministerial ordinance designation number	Released into air	Released into water	Released to land	Transfer amount
Zinc compounds (water-soluble)	1	0.000	2.907	0.000	1.550
Acrylamide	2	0.034	0.017	0.000	1.000
Acrylic acid	3	0.040	0.000	0.000	0.000
Ethyl acrylate	4	0.032	0.000	0.000	3.742
Methyl acrylate	6	0.000	0.000	0.000	0.000
Acrylonitrile	7	7.168	0.001	0.000	9.274
Acetaldehyde	11	0.000	0.000	0.000	0.000
Acetonitrile	12	0.000	0.002	0.000	0.000
2-Aminoethanol	16	0.104	0.438	0.000	0.000
Isoprene	28	0.086	0.000	0.000	0.001
Bisphenol A	29	0.160	0.024	0.000	0.411
Ethylbenzene	40	2.581	0.004	0.000	20.694
Ethylene oxide	42	1.218	0.000	0.000	0.000
Ethylene glycol	43	0.048	0.048	0.000	2.821
Propylene oxide	56	0.000	0.000	0.000	2.853
Xylene	63	0.333	0.000	0.000	28.089
Glyoxal	65	0.915	0.000	0.000	0.000
Cresol	67	0.000	0.001	0.000	0.000
Chloroethylene	77	17.495	0.001	0.000	0.000
Vanadium pentoxide	99	0.000	1.384	0.000	0.000
Vinyl acetate	102	0.000	0.000	0.000	7.220
1,4-Dioxane	113	0.038	0.045	0.000	0.000
Cyclohexylamine	114	0.000	0.003	0.000	0.000
1,2-Dichloroethane	116	0.021	0.000	0.000	0.000
N,N-Dimethylformamide	172	0.020	0.000	0.000	7.948
Styrene	177	6.734	0.001	0.000	140.665

Osaka Works

Name of substance	Ministerial ordinance designation number	Released into air	Released into water	Released to land	Transfer amount
Terephthalic acid	205	0.000	0.000	0.000	73.468
Water-soluble copper salts (except complex salts)	207	0.000	0.028	0.000	6.532
Toluene	227	12.897	0.000	0.000	17.197
Nonylphenol	242	0.000	0.001	0.000	0.000
Barium and its water-soluble compounds	243	0.000	0.000	0.000	0.000
Hydrazine	253	0.001	0.124	0.000	0.000
Hydroquinone	254	0.000	0.001	0.000	0.000
Phenol	266	2.079	0.220	0.000	1.300
1,3-Butadiene	268	0.079	0.000	0.000	0.000
Di-n-butyl phthalate	270	0.000	0.000	0.000	0.705
Bis(2-ethylhexyl) phthalate	272	0.000	0.000	0.000	0.000
Benzene	299	8.410	0.094	0.000	0.002
Formaldehyde	310	0.127	0.009	0.000	101.502
Phthalic anhydride	312	0.005	0.000	0.000	3.300
Maleic anhydride	313	0.001	0.000	0.000	0.000
Methacrylic acid	314	0.022	0.000	0.000	10.566
Methyl methacrylate	320	2.109	0.000	0.000	35.042
α-Methylstyrene	335	1.333	0.001	0.000	0.000
m-Tolylene diisocyanate	338	0.000	0.000	0.000	22.249
Molybdenum and its compounds	346	0.000	0.000	0.000	8.048
Dioxins	179	0.001	1.167	0.000	8.249

Iwakuni-Ohtake Works

Name of substance	Ministerial ordinance designation number	Released into air	Released into water	Released to land	Transfer amount
Acetaldehyde	11	1.502	0.000	0.000	0.000
Aniline	15	0.045	0.000	0.000	0.000
m-Aminophenol	21	0.000	0.000	0.000	0.000
Ethylene glycol	43	3.683	0.000	0.000	0.000
Propylene oxide	56	0.966	0.000	0.000	0.000
Xylene	63	212.679	0.000	0.000	0.000
Cresol	67	0.144	0.019	0.000	0.000
Chloroform	95	0.007	0.000	0.000	0.000
Cobalt and its compounds	100	0.000	0.000	0.000	0.000
1,4-Dioxane	113	0.000	0.000	0.000	0.000
Cyclohexylamine	114	0.082	0.184	0.000	0.000
Styrene	177	0.000	0.000	0.000	0.000
Terephthalic acid	205	0.000	0.000	0.000	0.000
Toluene	227	86.393	0.251	0.000	0.000
Nickel compounds	232	0.000	0.000	0.000	0.000
Hydroquinone	254	0.000	0.000	0.000	0.000
Phenol	266	0.014	0.279	0.000	0.000
Hydrogen fluoride and its water-soluble salts	283	0.000	0.056	0.000	0.000
Bromomethane/methyl bromide	288	114.962	0.000	0.000	0.000
Hexamethylenediamine	292	0.028	0.000	0.000	0.000
Benzene	299	30.110	0.000	0.000	0.000
Manganese and its compounds	311	0.000	0.000	0.000	0.000
Phthalic anhydride	312	0.000	0.000	0.000	0.000
Maleic anhydride	313	0.186	0.000	0.000	0.000
α-Methylstyrene	335	0.032	0.000	0.000	0.000

Yamaguchi SM Plant

Name of substance	Ministerial ordinance designation number	Released into air	Released into water	Released to land	Transfer amount
Ethylbenzene	40	1.484	0.000	0.000	0.000
Xylene	63	0.016	0.000	0.000	0.000
2,4-Dinitrophenol	158	0.000	0.000	0.000	0.024
Styrene	177	0.043	0.000	0.000	0.000
Toluene	227	0.015	0.000	0.000	0.000
Benzene	299	56.408	0.000	0.000	0.000
α-Methylstyrene	335	0.013	0.000	0.000	0.000

Omuta Works

Name of substance	Ministerial ordinance designation number	Released into air	Released into water	Released to land	Transfer amount
Zinc compounds (water-soluble)	1	0.000	0.828	0.000	1.400
Acetonitrile	7	0.013	0.000	0.000	0.000
Acrylonitrile	12	0.001	0.000	0.000	20.071
Aniline	15	0.806	0.005	0.000	0.106
2-Aminoethanol	16	0.058	0.000	0.000	0.000
Ethylbenzene	40	10.607	0.000	0.000	0.000
Ethylene glycol	43	0.000	1.800	0.000	0.017
Ethylenediaminetetraacetic acid	47	0.000	0.000	0.000	0.000
Epichlorohydrin	54	0.705	0.000	0.000	0.005
Xylene	63	36.734	0.250	0.000	15.294
Cresol	67	0.001	0.000	0.000	0.074
Chromium and trivalent chromium compounds	68	0.000	0.135	0.000	39.060
Chlorobenzene	93	10.135	1.258	0.000	0.559
Chloroform	95	0.347	0.088	0.000	6.407
Chloromethane	96	0.000	0.000	0.000	0.000
2-(Diethylamino)ethanol	109	0.000	0.000	0.000	0.000
Carbon tetrachloride	112	1.138	0.003	0.000	155.992
Cyclohexylamine	114	0.000	0.000	0.000	0.381
1,2-Dichloroethane	116	0.275	0.000	0.000	0.020
Flusulfamide	125	0.000	0.000	0.000	0.000
1,3-Dichloropropene	137	0.000	0.000	0.000	0.000
o-Dichlorobenzene	139	5.458	0.000	0.000	26.149
Dichloromethane	145	7.605	0.000	0.000	11.317
Dinitrotoluene	157	0.000	0.000	0.000	0.000
2,4-Dinitrophenol	158	0.000	0.000	0.000	0.000
2,6-Dimethylaniline	163	0.000	0.000	0.000	0.000
N,N-Dimethylformamide	172	0.168	0.375	0.000	111.667
Thiourea	181	0.000	0.000	0.000	0.055
Copper salts	207	0.000	0.000	0.000	1.033
Chloropicrin	214	0.031	0.000	0.000	14.267
o-Toluidine	225	0.000	0.000	0.000	31.735
Toluene	227	232.583	35.617	0.000	105.519
2,4-Toluenediamine	228	0.000	0.000	0.000	39.572
Lead and its compound	230	0.000	0.015	0.000	0.570
Nitrilotriacetic acid	233	0.000	0.000	0.000	6.119
Nitrobenzene	240	1.575	0.000	0.000	14.182
Picric acid	244	0.000	0.000	0.000	0.000
Hydrazine	253	0.000	0.000	0.000	0.012
o-Phenylenediamine	262	0.000	0.000	0.000	0.000
Phenol	266	1.598	1.488	0.000	0.005
Hydrogen fluoride and its water-soluble salts	283	0.000	16.447	0.000	0.000
Benzene	299	6.740	0.000	0.000	1.069
Boron and its compounds	304	0.000	27.541	0.000	0.000
Phosgene	305	0.000	0.000	0.000	0.000
Formaldehyde	310	3.141	0.000	0.000	1.156
Manganese and its compounds	311	0.000	23.481	0.000	0.000
Phthalic anhydride	312	0.000	0.000	0.000	32.510
3-Methylpyridine	336	0.000	0.000	0.000	0.000
m-Tolylene diisocyanate	338	1.033	0.000	0.000	0.000
4,4'-Methylenedianiline	340	0.000	0.000	0.000	0.000

Since the benzene emissions from the Iwakuni-Ohtake Works were attributed to unintentional production, we will take appropriate measures independently from the ongoing chemical industry's program for voluntary management of air pollutants.

Corporate Profile

Company Name
Mitsui Chemicals, Inc.

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Business Groups
Petrochemicals
Petrochemical feedstock, polyethylene, and polypropylene

Basic Chemicals
Fiber intermediates, PET resin, phenols, and industrial chemicals

Functional Polymers
Elastomers, functional polymers, and urethane resin feedstocks

Functional Chemicals and Engineered Materials
Functional fabricated products, electronics materials, information materials, agrochemicals, and fine chemicals

Paid-in Capital
¥103,226 million

Employees (As of March 31, 2004)
12,348 (Consolidated)
5,045 (Non-consolidated)

Domestic Manufacturing Sites
Ichihara Works (including Mobara Center), Nagoya Works, Osaka Works, Iwakuni-Ohtake Works, and Omuta Works

R&D Center
Sodegaura Center

Domestic Sales Offices
Head Office and three branches (Nagoya, Osaka, and Fukuoka)

Overseas Office
Beijing Office

Major Group Companies
● 74 Consolidated subsidiaries, including:
Mitsui Takeda Chemicals, Inc.; Osaka Petrochemical Industries, Ltd.; Shimonoseki Mitsui Chemicals, Inc.; Tohcello Co., Ltd.; Hokkaido Mitsui Chemicals, Inc.; Miike Dyes Works, Ltd.; Mitsui Chemicals Engineering Co., Ltd.; Mitsui Chemical Analysis and Consulting Service Inc., Mitsui Chemicals America, Inc.; Mitsui Chemical Europe GmbH, Mitsui Phenol Singapore Pte. Ltd.; Mitsui Elastomers Singapore Pte Ltd.; Mitsui Bisphenol Singapore Pte Ltd.; Mitsui Hygiene Materials Thailand Co., Ltd.; Siam Mitsui PTA Co., Ltd.

● 83 companies in which the Group holds equity
Toyo Engineering Corporation; GE Plastics Japan Ltd.; Du Pont-Mitsui Polychemicals Co., Ltd.; Keiyo Ethylene Co., Ltd.; NIPPON A&L INC.; Gem PC Ltd.; Du Pont-Mitsui Fluorochemicals Co., Ltd.; Yamamoto Chemicals, Inc.; Japan Polystyrene Inc.; Honshu Chemical Industry, Ltd.; P.T. AMOCO Mitsui PTA Indonesia; P.T. Petnesia Resindo; Thai PET Resin Co., Ltd.; Mitsui Hi-Polymer (Asia) Ltd.

Domestic Sites

History of Responsible Care

Initiatives of the Mitsui Chemicals Group	Year	Trends in Japan and World trends
ISO 14001 certification acquired (Nagoya Works) OHSAS 18001 certification acquired (Osaka Works) OHSAS 18001 certification acquired (Iwakuni-Ohtake Works) Yamaguchi SM Plant transferred to Taiyo Sekiyu Kagaku Co., Ltd.	2004	Stockholm Convention on Persistent Organic Pollutants enforced 3rd World Water Forum held (Japan)
OHSAS 18001 certification acquired (Omuta Works) First International Symposium on Catalysis Science OHSAS 18001 certification acquired (Ichihara Works, Mobara Center) ISO 14001 certification acquired (Yamaguchi SM Plant)	2003	Law Concerning the Examination and Regulation of Manufacture etc. of Chemical Substances amended (Japan) International Conference on Green Sustainable Chemistry held (Japan)
Framework for environment-related business operations established Qualified as business site that handles high-pressure gas (Iwakuni-Ohtake Works) OHSAS 18001 certification acquired (Nagoya Works) Risk management rules formulated ISO14001 certification acquired (Iwakuni-Ohtake Works) ISO14001 certification (Omuta Works, Osaka Works, Shimonoseki Mitsui Chemicals)	2002	The Johannesburg Summit held Report of the OECD Environmental Performance Review on Japan published Guidelines for Waste Plastics (Basel Convention WG) adopted Soil Pollution Prevention Law enacted (Japan) Kyoto Protocol ratified (Japan) Enforcement Ordinance for the Waste Disposal and Public Cleansing Law amended (Japan)
Ofuna Center (Laboratories) closed and destroyed (soil decontamination) Concept of eco-efficiency introduced Environmental accounting system introduced ISO 14001 certification (Ichihara Works)	2001	COP7 (Marrakesh Conference) held International Freshwater Conference held (Germany) Law Concerning Special Measures against PCB enacted (Japan) 2nd World Water Forum held (Netherlands)
The company-wide mental health promotion project formulated ISO 9002 certification (Yamaguchi SM Plant) "The Responsible Care Report 2000" published	2000	COP6 (Hague Conference) held Law Regarding the Promotion of the Use of Recycled Resources amended (Japan) Green Purchasing Law enacted (Japan) Basic Law for Establishing the Recycling-based Society Enacted (Japan)
Voluntary guidelines for reduction of environmental load of atmospheric emissions (to 2005)	1999	COP5 (Bonn Congress) held
1st Assembly of the Responsible Care Committee ISO 9002 certification (Omuta Works) Sludge decomposition process using ozone introduced	1998	PRTR Law enacted (Japan) Law Concerning Special Measures against Dioxins enacted (Japan) COP4 (Buenos Aires Congress) held
Company rules concerning responsible care prepared (environmental conservation, occupational safety and health, product safety, quality management) Corporate Mission and the Basic Policy for Responsible Care formulated Mitsui Chemicals founded Mitsui Petrochemical Industries, Ltd. and Mitsui Toatsu Chemicals, Inc. merged	1997	Law for Promoting Measures against Global Warming enacted (Japan) COP3 (Kyoto Congress) held Kyoto Protocol adopted 1st World Water Forum held (Morocco)

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About the molecular model on the front cover

The molecular model on the front cover is of phosphazene (PZN), a metal-free, highly active and selective catalyst. It is used to catalyze synthetic reactions for polyurethane resin feedstocks and semiconductor sealants.

Symbol on the front cover

The symbol on the front cover is Mitsui Chemicals' new corporate symbol. The three curving bands stand for Growth and Vitality, Chemical Technology and Innovation, and Society's Trust in the Mitsui Chemicals Group. They represent the group's ceaseless and unlimited growth far into the future.

Surface treatment of the front cover

The film laminated on the front cover is Mitsui Chemicals' plant-derived biodegradable plastic LACEA™.

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