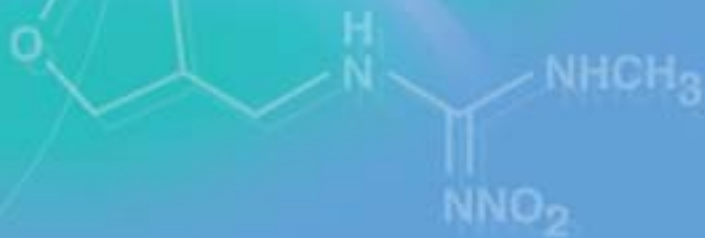


Responsible Care Report

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

2002



MITSUI CHEMICALS, INC.

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■ What is Responsible Care (RC)?

RC encompasses all those activities that manufacturers of chemical substances implement or involve themselves with in order to act responsibly towards the environment. These activities include improvements and measures taken in order to preserve the environment and the health of the general public, prevent damage to facilities, and protect the health of all those involved in manufacturing of chemicals. These activities operate within the principle of individual responsibility and take place at all stages of a chemical substance's life cycle.

The world's leading chemical companies take part in these activities under the leadership of the International Council of Chemical Associations (ICCA), which was established in 1990. In Japan, the Japan Responsible Care Council (JRCC) is in charge of promoting the activities. Hiroyuki Nakanishi, president of Mitsui Chemicals, Inc., has served as chairman of JRCC since fiscal 2002.

See the JRCC website for details.

Japan Responsible Care Council (JRCC)
www.nikkakyo.org/organizations/jrcc/top_e.html

■ About This Report

Scope: Mitsui Chemicals, Inc. and its subsidiaries and affiliates on the Company's works

Period: From April 2001 to March 2002

(Some sections cover the period up to July 2002.)

Date of issue: October, 2002

Editorial policy: This report was written following guidelines produced by the Ministry of the Environment and the Global Reporting Initiative (GRI). It discloses to the public RC activities, including matters reported to JRCC.

Special remarks: In presenting our management system, we have avoided duplicating information from last year's report. We have endeavored to produce a reader-friendly report by introducing new approaches as well as adopting suggestions from a range of our stakeholders. (p. 34)

This report covers the activities of the Mitsui Chemicals Group both at home and abroad.

Message from the Management

The 21st century has been declared the “century of the environment.” It is also an era in which humankind must be enthusiastic in tackling the problem of coexisting with the global environment. The chemical industry contributes to creating a society that is at ease with itself by providing useful chemicals. Nevertheless, chemicals are double-edged because they also pose potential risks in that inappropriate handling can bring adverse effects on human health and the environment. As a chemical company, we have set ourselves a grand mission of bringing about the sustainable development of society, maximizing the usefulness of chemicals while minimizing their potential risks.

The Mitsui Chemicals Group continues its activities to ensure the accomplishment of its mission to contribute to society through innovations and creation of materials while keeping in harmony with the global environment.

With our medium-term corporate plans starting from fiscal 2001 as one of our mainstays, we have been addressing the need for a thorough understanding of a variety of environmental preservation activities and safety and quality management procedures based on the concept of responsible care (RC). As a further effort to establish a comprehensive RC management system, we have acquired a succession of international certifications, including ISO 14001, ISO 9000, and OHSAS 18001. This system interlocks with Mitsui Chemicals’ own management structure.

In fiscal 2001, the Risk Management Committee was established to promote comprehensive risk management activities that are in line with the Group’s risk management policy. Corporate action guidelines were also established to enable each employee to renew their commitment to their responsibility for taking action in line with these guidelines.

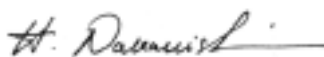
As a diversified chemical company, we are facing the critical issue of how to contribute to environmental preservation through our business activities. We are assuming our responsibility to society by enthusiastically developing new products that will integrate environmental solutions, as well as developing and manufacturing products with lower environmental loads.

We have improved the eco-efficiency indicator that we use for the environmental evaluation of our business activities and made it more comprehensive by establishing environment-friendliness evaluation method, which includes potential risks from chemicals. By applying these tools to product development, we are developing environmentally friendly business activities.

We will assume our responsibilities as a global leader in the 21st century and contribute to society through a variety of measures with the aim of creating a recycling-oriented society and sustainable development.

This report is our way of communicating our commitment to responsible care to you, our stakeholders, and we ask for your continued interest in and support for Mitsui Chemicals.

October 2002



President
Mitsui Chemicals, Inc.
Hiroyuki Nakanishi



Topics in Fiscal 2001

• Establishing a Group Risk Management System

Mitsui Chemicals established a group risk management system to seek out risks as early as possible and thus prevent accidents from happening. Specific efforts include establishing *Action Guidelines* based on our managerial vision, forming the Group Risk Management Committee, and establishing a system to effectively and constantly prevent group risks.



Portable *Action Guidelines* cards (English and Japanese versions)

• ISO 14001 and OHSAS 18001 Certification

Mitsui Chemicals is committed to acquiring international certification for its company-wide management system to enhance environmental management activities in RC and to maintain transparency.

In March 2002, Ichihara Works Mobara Center, Osaka Works, Iwakuni-Ohtake Works, Omuta Works, and Shimonoseki Mitsui Chemicals, Inc., one of our subsidiaries, acquired ISO 14001 certification.

Similarly, efforts to acquire certification for our occupational health and safety management system are also under way.

In June 2002, Nagoya Works, including the subsidiaries and affiliates on the works' premise, acquired OHSAS 18001 certification. This has developed a framework for decreasing occupational accidents and a continuous reduction of risks in the workplace.



Nagoya Works

• Completion of the Bio Process Acrylamide Plant in South Korea

In February 2002, Yongsan Mitsui Chemicals, Inc., our Korean affiliate, completed and successfully started the operation of a state-of-the-art plant to produce 5,000 tons of acrylamide (AAM) a year by a bio process developed by Mitsui Chemicals. Our bio process manufacturing technology enables the direct production of high-quality acrylamide by using a proprietary highly activated enzyme catalyst. The technology is significantly environmentally friendly due to outstanding reductions in wastewater and waste in the manufacturing process compared with the previous method.

Acrylamide contributes to conserving resources and environmental preservation. It is used in paper recycling as a paper-strengthening agent as well as in wastewater treatment as a flocculant and an oil-collection agent.



Yongsan Mitsui Chemicals, Inc.

- **Establishment of the Catalysis Science Laboratory**

In April 2002, Mitsui Chemicals established the Catalysis Science Laboratory to efficiently and effectively engage in and promote catalysis research, which is one of the Company's areas of expertise. The laboratory deals with the whole area of chemical compound formula design as well as catalyst development and process development for everything from petrochemicals and basic chemicals to functional products.

Olefin polymerization phenoxyimine complex catalyst, one of our achievements, has brought about (1) the world's highest catalytic activity, (2) wide-range flexible molecular weight control, and (3) nano-level structure control. This development enabled us to provide resins with different properties even in the same molecular structure. As a result, this catalyst, which has outstanding transparency and strength, is applied to such areas as information and telecommunications and medical care.



Asymmetric catalyst

- **Establishment of High-Quality PET Recycling Technology**

Molded products made from recycled polyethylene terephthalate (PET) are inferior to products made from virgin materials in terms of appearance, color, and other aspects. With concerns of food safety and sanitation, the use of recycled PET has been limited.

Mitsui Chemicals Engineering Co., Ltd., one of Mitsui Chemical's subsidiaries, developed an advanced cleaning technology by which PET bottle waste is hydrolyzed by alkali cleaning for diffusion treatment using high-temperature nitrogen and fused and devolatilized. The company also established economic and efficient flake solid layer polymerization technology.

These technologies contributed to solving food sanitation-related issues and enabled "bottle-to-bottle" recycling.



PET flakes

- **Full-Scale Promotion of RC Assistance for Our Asian Affiliates**

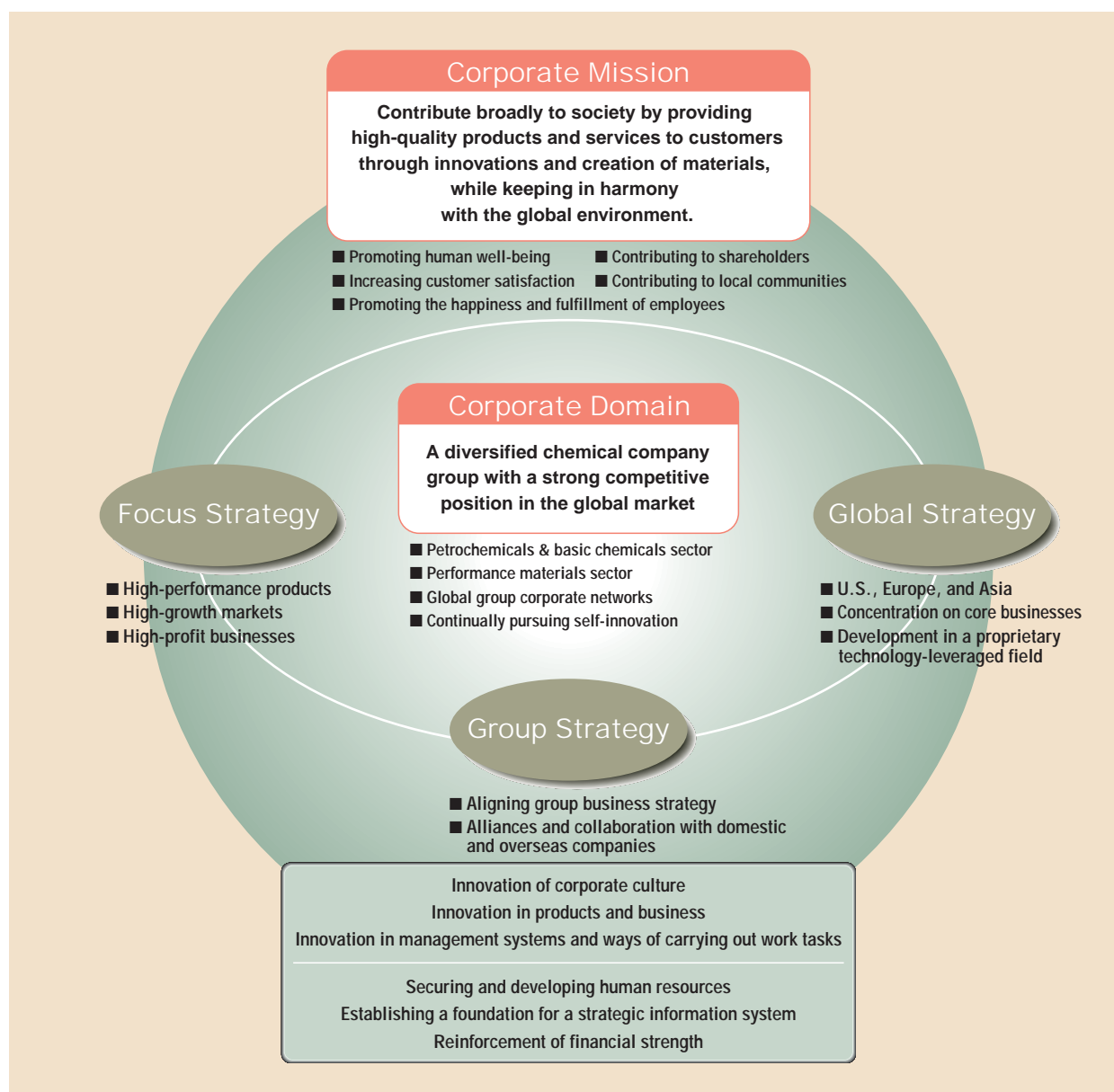
To promote RC throughout the Group, Mitsui Chemicals has engaged in RC assistance for its affiliated companies within Japan. In fiscal 2001, Mitsui Chemicals started actively providing RC assistance to its Asian subsidiaries and affiliates, which will become important production sites in the future.

In the Asia region, it is necessary to have RC management systems that match each country's needs. In fiscal 2001, Mitsui Chemicals carried out RC field investigations and audits on seven major subsidiaries and affiliates in Singapore, Thailand, and Indonesia. We are aiming to improve RC to a level at which we will be able to acquire all the international standards, including occupational safety and health management systems.



Mitsui Bisphenol Singapore Pte Ltd

Corporate Vision



■ Corporate Action Guidelines

Every officer and employee of the Mitsui Chemical Group, aspiring to see the Company become a diversified chemical company with a strong competitive position in the global market, acts with integrity and responsibility, following the guidelines as described below.

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

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

Mitsui Chemicals has been developing business activities based upon a corporate mission stating that, “Contribute broadly to society by providing high-quality products and services to customers through innovations and creation of materials while keeping in 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 implement 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 load 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, such as employees and others related to works 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 products for their intended applications.

4. Promoting of Self-Management

Strive for continuing improvements in 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

RC Management Systems

Mitsui Chemicals has been implementing RC initiatives in order to achieve harmony with the global environment, as stated in its corporate mission. We have been making every effort to secure the safety of our facilities and products and the health and safety of our employees by managing risks based on the information obtained from a proper understanding of the situation. Thus, we aim at reducing the environmental load.

RC Management Systems

Mitsui Chemicals promotes RC activities in such areas as environmental preservation, process safety and disaster prevention, occupational health and product safety, quality, and social communication. It is therefore essential to carry out legal compliance, aggressively reduce potential risks, and disclose information on these matters, as listed in the corporate action guidelines, which form the foundation of corporate governance.

Mitsui Chemicals endeavors to maintain development by implementing an RC management system that is in line with its corporate governance.

Letting the plan, do, check, and action (PDCA) cycle of the system work by pursuing maximum social contribution with minimum potential risk will help verify corporate governance, and this will result in sustainable development of the Company.

We are making further efforts to establish a Group-wide system by applying this RC management system to our subsidiaries and affiliates.

RC Promotion System

Our RC activities are promoted by the RC Committee, which is chaired by the president and comprises Management Committee members. The EHS Subcommittee and Quality Management Subcommittee, chaired by duly assigned directors, play important roles in the environmental health service and quality management. The persons in charge of RC promotion (general managers) lead the activities in each department.

RC Committee

Chairman: President

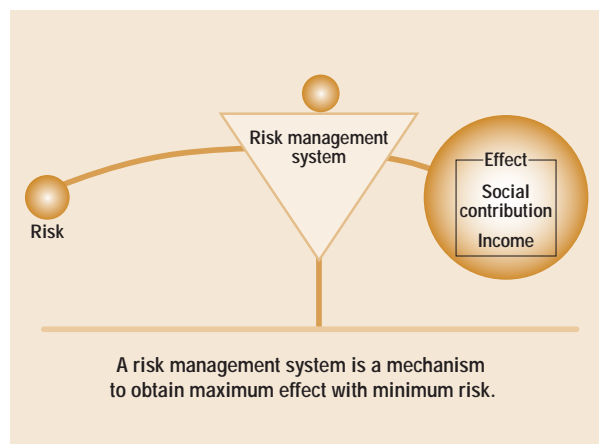
Matters discussed:

1. RC results for the previous year and RC audit results
2. RC annual plans for the coming year
3. Other important matters, including reviews of the RC system

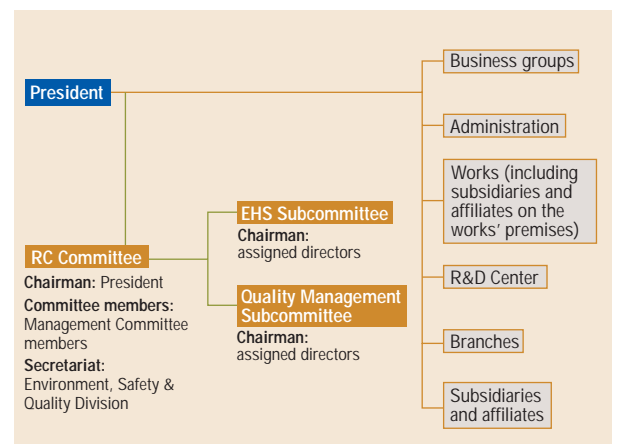
EHS Subcommittee/ Quality Management Subcommittee

These committees draw up annual plans for the coming year based on the RC results and RC audit results of the previous year in relevant areas submitted to the RC Committee.

Chart of Responsible Care



RC Committee Organization Chart



Acquiring International Certification

The acquisition of international standards is under way at Mitsui Chemicals on RC implementation items for environmental preservation, occupational health and safety, and quality. In fiscal 2001, Osaka Works, Iwakuni-Ohtake Works, Omuta Works, and Shimonoseki Mitsui Chemicals, Inc., one of our affiliates, acquired ISO 14001 certification. Ichihara Works Mobara Center acquired certification in addition to that already obtained by the Ichihara Works.

In June 2002, Nagoya Works acquired OHSAS 18001 certification.

International certification and schedules

Works	Certification	Date of acquisition
Ichihara Works and Mobara Center*	ISO 14001	03/22/02
	OHSAS 18001	03/03(scheduled)
Nagoya Works	ISO 14001	09/03(scheduled)
	OHSAS 18001	06/24/02
Osaka Works	ISO 14001	03/25/02
	OHSAS 18001	12/03(scheduled)
Yamaguchi SM (Styrene monomer) Plant	ISO 14001	01/03(scheduled)
	OHSAS 18001	2004 and later
Iwakuni-Ohtake Works	ISO 14001	04/26/02
	OHSAS 18001	12/03(scheduled)
Omuta Works	ISO 14001	03/20/02
	OHSAS 18001	09/03(scheduled)
Shimonoseki Mitsui Chemicals, Inc.	ISO 14001	03/20/02
	OHSAS 18001	2004 and later

* Ichihara Works already acquired certification on March 26, 2001, and it newly acquired certification for its Mobara Center.



Osaka Works



Iwakuni-Ohtake Works



Omuta Works

Integrated Management System (Ichihara Works)

Ichihara Works has already acquired ISO 9000 and ISO 14001 certifications, and efforts to acquire OHSAS 18001 certification are under way. Our continuous efforts are always directed towards being a universally known and recognized chemical group and promoting our appropriate business activities.

Because these international certifications have many items in common, including documentation management, we are endeavoring to put in place centralized management that will result in efficient and effective business activities that make use of the integrated management system.

Efforts at Overseas Subsidiaries and Affiliates

The Mitsui Chemicals Group promotes RC at its subsidiaries and affiliates abroad to fulfill its social responsibilities. Based on our efforts at home, we are working to establish an RC management system for operations and management overseas. In the Asian region in particular, the Administrative Liaison Council was established in 2002 to support comprehensive business management, which includes RC issues.

Efforts at MBS

Mitsui Bisphenol Singapore Pte Ltd (MBS) established the Safety Committee in 1999, the year we began taking a PDCA cycle-oriented approach. Education and training for employees, including those in supporting companies, are some of the most important issues that had been addressed in detail so far. For improved awareness, and to encourage communication with employees, MBS publishes the health and safety newsletter *SKY* quarterly. MBS received an annual award from the Ministry of Manpower (MOM) in recognition of its safety and is now well-established and continuing to develop its role.



SKY newsletter



Risk Management System

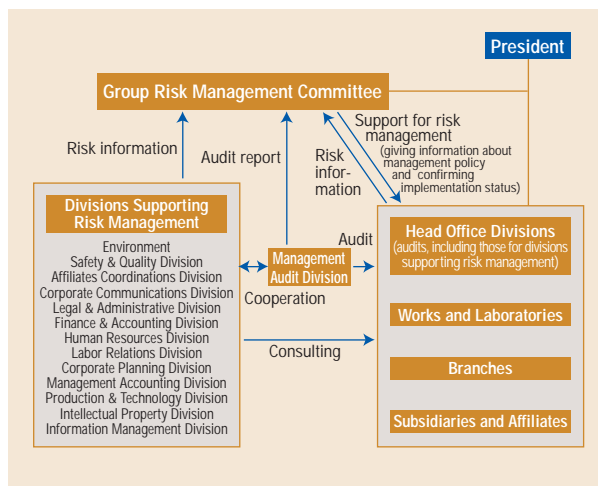
Mitsui Chemicals established the Group Risk Management Committee in 2001 to take countermeasures against corporate risks. A group risk management system was thus built up to deal with financial, legal, and overseas business affairs.

Some RC items, including environmental preservation and quality, are dealt with as especially important issues to be addressed because they present a whole range of potential risks.

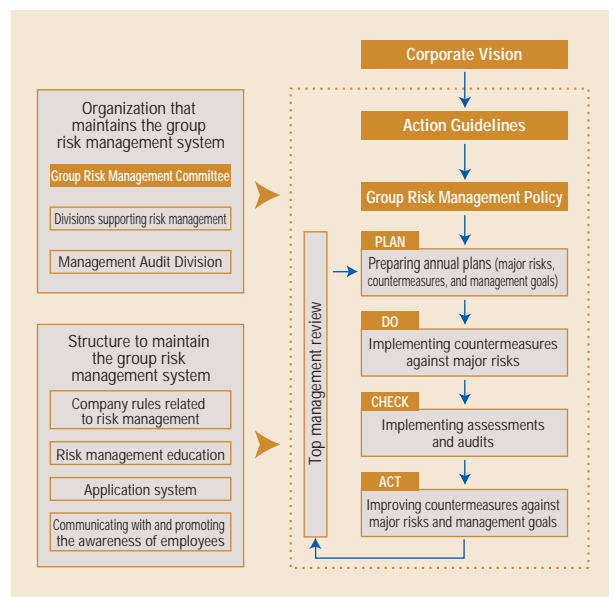
Basic principles for Group Risk Management

1. The line managers should be sure to carry out plan, do, check, and action (PDCA) procedures in conducting day-to-day risk management.
2. Any employee who has obtained any information regarding risk should promptly report all such information to the line superior.
3. Any employee who has obtained any information regarding risk should not keep it within the employee's own department but should share it positively with other departments and seek cooperation.
4. Each individual employee should be keenly aware that each employee is responsible for risk management and should maintain an awareness of risk at all times.

Group Risk Management system organization chart



Group Risk Management system schematic chart



RC Implementation Items

Mitsui Chemicals takes a committed approach to using the PDCA cycle for items related to RC issues on each stage of the product life cycle.

Examples of RC implementation items

	Environmental preservation	Process safety and disaster prevention	Occupational health and safety	Product safety	Quality
Research and development	<ul style="list-style-type: none"> Developing environmental load reduction technology Developing products with lower environmental loads Technical Evaluation Committee 	<ul style="list-style-type: none"> Improving process safety Technical safety checks Technology Evaluation Committee 	<ul style="list-style-type: none"> Eliminating occupational accidents Health management Technology Evaluation Committee 	<ul style="list-style-type: none"> Hazard assessment Risk assessment Product Safety Committee Technology Evaluation Committee 	<ul style="list-style-type: none"> Improving product quality Product Safety Committee Technology Evaluation Committee
Manufacturing	<ul style="list-style-type: none"> Reducing environmental load Technology Evaluation Committee Engaging in dialogue with local communities 	<ul style="list-style-type: none"> Technical safety checks Preventing similar accidents Technology education Technology Evaluation Committee 	<ul style="list-style-type: none"> Eliminating occupational accidents Health management Technology Evaluation Committee 	<ul style="list-style-type: none"> Providing information to customers and engaging dialogue Entrusted parties management Technology Evaluation Committee 	<ul style="list-style-type: none"> Securing quality (prevention of recurring complaints) Entrusted parties management Technology Evaluation Committee
Sales and logistics	<ul style="list-style-type: none"> Taking logistical safety measures (Yellow Card) 	<ul style="list-style-type: none"> Taking logistical disaster measures (Yellow Card) 	<ul style="list-style-type: none"> Taking logistical disaster measures (Yellow Card) 	<ul style="list-style-type: none"> Taking logistical disaster measures (Yellow Card, MSDS, labels) Preparing instructions 	<ul style="list-style-type: none"> Taking logistical disaster measures Preparing instructions
Use and disposal	<ul style="list-style-type: none"> Providing information to customers (MSDS and technical information) Recycling 		<ul style="list-style-type: none"> Providing information to customers (MSDS and technical information) 	<ul style="list-style-type: none"> Providing information to customers (MSDS and technical information) 	<ul style="list-style-type: none"> Reducing complaints

Communication with society

Education System

In order to promote RC, it is vital that on-site education is given a high priority in addition to the education and training in legal requirements, ISO 9000 and 14001, and OHSAS 18001. Furthermore, education and training within the hierarchy are implemented.

The education of contractors will further develop RC within Mitsui Chemicals.

Educational program list

Hierarchy-oriented program	Training for new employees, seminars for newly assigned directors, training for employees newly assigned to managerial positions, training for employees in their second or fifth year of employment
Professional program	Legal compliance program (conducted by works and laboratories), basic program for sales personnel, an accounting course
Global communications program	Short-term overseas language study program, an English communications course
Consolidated management system enhancement program	Seminars for newly assigned full-time directors of subsidiaries and affiliates, seminars for presidents of subsidiaries and affiliates

Internal Audit System and Implemented Results

The RC audit consists of EHS and quality audits. The assigned director performs an audit at the works and laboratories (including subsidiaries and affiliates on the works' premises) at least annually. The audit is based on respective audit rules and is carried out in conjunction with annual plans for EHS and quality to interpret their results. PL (Product Liability) and quality audits are conducted for business groups.

Areas needing improvements are highlighted through the auditing process and included in the following year's RC annual plan. They are then reviewed during the next audit.

General managers in the works (including subsidiaries and affiliates on the works' premises) and laboratories also carry out this process to confirm that RC is properly achieved or whether any improvements are needed.

Internal audit implemented

Site audited	Date audit implemented
Ichihara Works	03/13/02
Nagoya Works	03/05/02
Osaka Works	04/03/02
Yamaguchi SM Plant	03/08/02
Iwakuni-Ohtake Works	03/08/02
Omuta Works	03/18/02
Sodegaura Center/Life Science Laboratory	03/25/02

Internal Audits for Subsidiaries and Affiliates not on Works' Premises

In fiscal 2000, as a part of RC support, Mitsui Chemicals started internal audits of the subsidiaries and affiliates that are not on the works' premises.

In fiscal 2001, Asian subsidiaries and affiliates in Asia were also covered. In this way, Mitsui Chemicals continues its efforts to further improve RC PDCA for the whole Group.

Internal audit for subsidiaries and affiliates

Site audited	Date audit implemented
Hokkaido Mitsui Chemicals, Inc.	02/27/02
Printec Co., Ltd.	04/10/02
Sunrex Industry Co., Ltd.	07/19/01
Shimonoseki Mitsui Chemicals, Inc.	03/11/02
Mitsui Bisphenol Singapore Pte Ltd (MBS)	02/03/02
Mitsui Phenol Singapore Pte. Ltd. (MPHS)	02/03/02
MTK Chemicals Pte. Ltd.	02/04/02
P.T. Arjuna Utama Kimia	02/06/02
P.T. Mitsui Eterindo Chemicals	02/07/02
Thai Mitsui Specialty Chemicals Co., Ltd.	02/08/02



An audit at an overseas site

Environmental Accounting

■ Environmental Accounting Policy

Mitsui Chemicals has made significant investments in the support of RC, for measures taken for environmental preservation, and occupational safety. Through understanding costs and effects in regard to the environment in quantitative terms, environmental accounting has been introduced for the three purposes outlined below.

1. Allocate management resources as appropriate to deal with environmental issues.
2. Promote efficient environmental preservation.
3. Improve evaluation and reliability from the community through positive disclosure.

Scope

Mitsui Chemicals main works and its subsidiaries and affiliates on the works' premises

Period

Fiscal 2001 (from April 2001 to March 2002)

■ Accounting Methods

The cost is defined as follows, with reference to guidelines produced by the Ministry of the Environment.

1. Costs, which can be clearly assessed and accounted for, of environmental pollution prevention and environmental preservation and remediation.
2. Costs are designated as investments or expenses. Investments are defined as work performed for the purpose of preventing pollution and preserving the environment for that period.
3. Expenses involved include the cost of raw materials and personnel expenses that correctly reflect the depreciation charge for the facilities.

Results for Fiscal 2001

Investment costs amounted to approximately ¥2.3 billion (\$1.9 billion) while expenses reached approximately ¥16.6 billion (\$13.8 billion). Additionally, the economic effect in conjunction with the cost of environmental preservation amounted to approximately ¥1 billion (\$0.83 billion).

We continue systematic efforts to reduce costs by improving our accuracy in determining environmental costs and increasing care with business operations and management.

We are also planning and implementing more efficient and effective ways of reducing the environmental load by focusing on eco-efficiency.

Cost of preserving the environment

(100 million yen)

Classification	Contents	Amount of investment	Expenses
1) Cost of environmental preservation to reduce the environmental load that comes within the business area by production and service activities		14	110
1-1) Cost of preventing pollution	Wastewater treatment facility, lowering of gaseous emissions, etc.	(13)	(97)
1-2) Cost of preserving the global environment	Energy conservation facility	(1)	(1)
1-3) Cost of recycling resources	Industrial waste disposal, waste volume reduction facility, etc.	(0)	(12)
2) Cost of reducing the environmental load caused by the upstream and downstream processes along with production and service activities		—	—
3) Environmental preservation cost associated with management activities	Implementation of environmental management, employee education, etc.	0	5
4) Environmental preservation cost associated with R&D activities	Products related to maintaining the environmental load, process development, etc.	0	41
5) Environmental preservation cost associated with social activities	Money reserved for pollution, greening, etc.	0	4
6) Total cost related to environmental damage	Survey of environmental pollution, remediation, etc.	9	6
Total		23	166

Economic effects along with environmental preservation measures

(100 million yen)

Classification	Contents	Effects
Revenues obtained from recycling Revenues obtained from energy conservation Revenues obtained from resource conservation	Resource recovery and recycling waste Improvement in the specific energy consumption unit for raw materials, etc.	10

RC Performance

During fiscal 2001, six issues were addressed and targets set.
Activities based on fiscal 2000 successfully addressed these issues.

Important Issues and Results in fiscal 2001

Important issues	Measures addressed	Results
1. More aggressive efforts on environmental issues to clearly disclose performance both inside and outside the company		
1-1 More positive reduction in the environmental load Target: To surpass our competitors through our positive and planned efforts to reduce the environmental load	<ul style="list-style-type: none"> Drawing up a plan to reduce hazardous substances emitted into the air and implementing the planned reduction Drawing up a waste reduction plan and implementing the planned reduction (promotion of 3R) Promoting ISO 14001 certification according to the schedule 	<ul style="list-style-type: none"> Countermeasures against benzene (Omuta Works) and HC (Ichihara Works) conducted on schedule Inorganic sludge countermeasures conducted on schedule at most works, except Omuta Works, where some delays occurred Countermeasures for nitrogen reduction (Osaka Works) promoted Acquired by each work in fiscal 2001, as scheduled
1-2 Appropriate responses to relevant environmental laws and regulations Target: Compliance with new environmental laws and regulations is expected.	<ul style="list-style-type: none"> Paying attention to trends in new environmental regulations and planning and implementing necessary measures 	<ul style="list-style-type: none"> Measures completed
1-3 Establishing an evaluation method effective in environmental management Target: Effective and efficient implementation of environmental preservation activities	<ul style="list-style-type: none"> Identifying environment-related costs and effects and making use of the information Establishing an evaluation method to minimize environmental load from the development stage 	<ul style="list-style-type: none"> Identification of environment-related costs and effects achieved and a cost reduction plan underway Evaluation method almost established and evaluation results compiled in ACCEL 21
2. Aggressive promotion of environmental businesses		
Target: To incorporate environmental businesses into the business plans	<ul style="list-style-type: none"> Promoted the development of environmentally friendly products Promoted waste recycling Promoted the use of environment-oriented technology and environmental remediation technology 	<ul style="list-style-type: none"> LACEA and AAM favorably marketed and the development of biodegradable polyamino acid under way PET chemical recycling technology established Environment-oriented businesses, including a dioxin decomposition catalyst, under way
3. Aggressive company-wide efforts to eliminate accidents and occupational hazards		
3-1 Improving the safety management level to prevent accidents Target: Zero occupational hazards (or any abnormal phenomena)	<ul style="list-style-type: none"> Reinforcing company-wide inspections for safety essentials technologies 	<ul style="list-style-type: none"> Damages to facilities occurred in two instances. Measures taken against generating explosive mixtures of air, and a company-wide inspection for static electricity implemented.
3-2 Aggressive measures to eradicate occupational hazards Target: Zero occupational hazards	<ul style="list-style-type: none"> Intensive guidance at works, where many occupational hazards occur Reinforcing contractor's safety management Measures taken at works based on company-wide case studies Encouraging periodical measures to promote employee awareness of occupational hazards at the works 	<ul style="list-style-type: none"> No decrease in occupational hazards seen, discussed during environmental safety audit Measures being taken in line with the annual plan Applying case studies to works under way Measures being taken in line with the annual plan
3-3 Establishing a company-wide system to prevent accidents and occupational hazards Target: Zero accidents and occupational hazards	<ul style="list-style-type: none"> Introduction of the occupational health and safety management system 	<ul style="list-style-type: none"> System introduced at Nagoya Works and is under way at all WGs company-wide
4. Establishment and promotion of a company-wide occupational health and safety management system		
4-1 More aggressive efforts towards mental health care Target: Decrease in the number of people suffering from mental health problems	<ul style="list-style-type: none"> Improve mental health activities through plans to encourage mental health Reinforcing the Health Administration Department's ability to respond to mental health care 	<ul style="list-style-type: none"> Hierarchical education (including seminars for persons in charge of mental health) given Company-wide training given for persons in charge of mental health and counseling; the number of leave of absence for mental health problems increased from the previous year
4-2 Reinforcement and enhancement of the management system at the workplace to improve the level of occupational health Target: (1) To correct the gap in occupational health management between business sites (2) Appropriate control of hazardous factors in the workplace (3) Improving employees' health	<ul style="list-style-type: none"> PDCA-oriented system by introducing OHSAS 18001 Establishing and implementing an independent health management system run by employees 	<ul style="list-style-type: none"> Occupational health instructions for the workplace developed Almost the same proportion of symptoms found at medical checkups as that in the previous year
5. Reinforcing efforts to prevent PL problems		
5-1 Reinforcing product safety management Target: No PL-related accidents	<ul style="list-style-type: none"> Implementing PL risk classification of products, inspection of measures and PL-related audits Assured implementation of safety evaluation for new product development Assured compliance with legal standards for products to be marketed abroad 	<ul style="list-style-type: none"> Classification completed and inspection under way Hazard assessment standards drawn up Legal compliance manual drawn up for products to be marketed abroad; MSDS developed
5-2 Reducing claims and complaints Target: Zero claims and a 10% reduction in complaints over the previous year	<ul style="list-style-type: none"> Improvements in quality management at the manufacturing contractors Preventing recurrent or similar complaints (analysis of root causes using a logic tree analysis) 	<ul style="list-style-type: none"> Claims and complaints reduced Implementing audits on and guidance for contractors Many recurring complaints
6. Reinforcing Group-wide RC management		
6-1 Establishing an RC promotion/assistance system at subsidiaries and affiliates Target: Safety and quality control at subsidiaries and affiliates qualify for the management system	<ul style="list-style-type: none"> Hold regular RC meetings at subsidiaries and affiliates Assistance with drawing up annual plans for subsidiaries and affiliates; review and audit their results 	<ul style="list-style-type: none"> RC meetings held at subsidiaries and affiliates Assistance given, PDCA operation confirmed, and rules established for RC assistance Audits at subsidiaries and affiliates overseas
6-2 Establishing an RC-related risk management system Target: Potential company-wide risks being clarified, a suitable manual being prepared when risks are revealed, and employees being trained to deal with situation	<ul style="list-style-type: none"> Improving risk assessment Establishing and implementing a risk communication system 	<ul style="list-style-type: none"> Implemented on schedule as a part of the measures against PL-related problems A system for the works under way
6-3 Encouraging the spread of RC awareness Target: Spread RC awareness and incorporate RC measures into business strategies and other schemes	<ul style="list-style-type: none"> Giving timely reports to the RC Committee and Management Committee Hold regular RC meetings with business groups 	<ul style="list-style-type: none"> Implemented on schedule Business group rules established for persons in charge of RC Efforts made to hold regular meetings
6-4 Complete disclosure of the performance of RC efforts both inside and outside the Company Target: RC report highly evaluated both inside and outside the Company	<ul style="list-style-type: none"> Improving the RC report and publishing it regularly 	<ul style="list-style-type: none"> Publishing the RC report following guidelines prepared by the Ministry of the Environment and the Global Reporting Initiative (GRI)

Commitment to Environmental Preservation

Mitsui Chemicals contributes to environmental preservation in two ways: first, by reducing the environmental load, and second, by the appropriate management of its own chemical substances. Mitsui Chemicals will continue to actively promote this commitment to environmental preservation.

Commitment to Hazardous Air Pollutants and PRTR

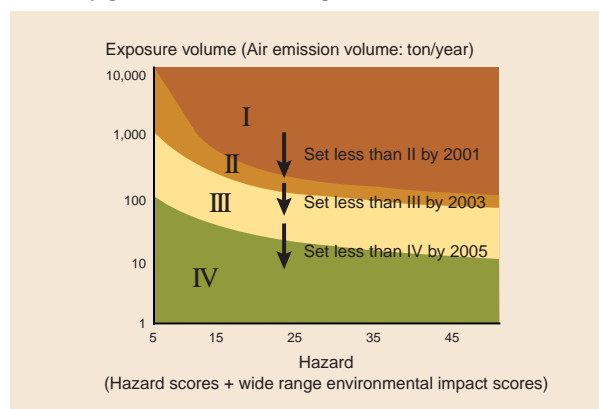
In June 2002, it became mandatory to apply to the national government for chemical substances that are designated under the Law Concerning Reporting etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (the PRTR Law).

The chemical industry began voluntary compliance with the PRTR in fiscal 1992. Mitsui Chemicals has fully participated in this commitment through such actions as submitting a report to the Japan Chemical Industry Association and assigning priorities to the reduction plan, a plan that is currently being implemented.

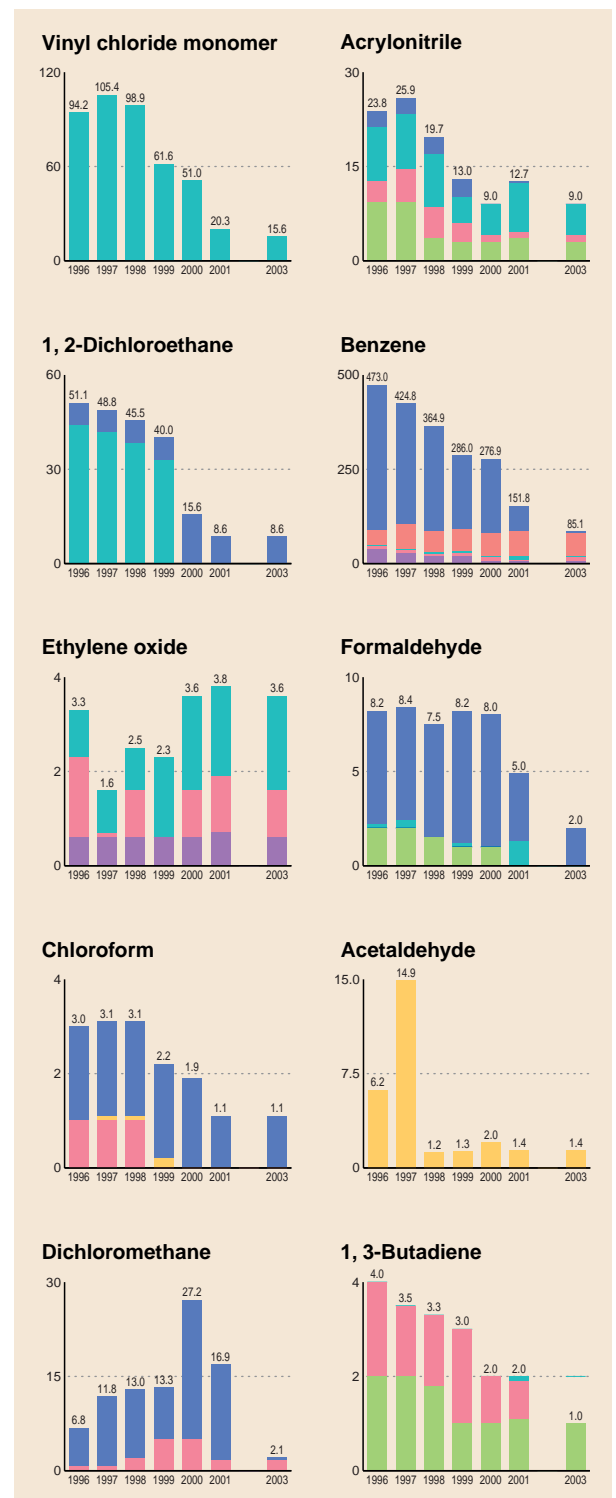
Mitsui Chemicals set voluntary guidelines for the method of assessing risk in environmental preservation to reduce the emission of air pollutants.

We continue our endeavor to obtain the support of the people in relevant communities as well as the nation, by identifying and evaluating the environmental impact on peripheral areas due to emissions and conducting risk management.

Voluntary guidelines for reducing air environmental load



Emission volume of hazardous air pollutants (ton/year)



Ichihara Works (purple), Mobarra Center (green), Nagoya Works (pink), Osaka Works (cyan), Yamaguchi SM Plant (orange), Iwakuni-Ohtake Works (yellow), Omuta Works (blue)

Prevention of Global Warming

Mitsui Chemicals has been working towards reducing CO₂ emissions since the 1990s.

The bulk of our company's CO₂ emissions (92%) is produced by energy generation.

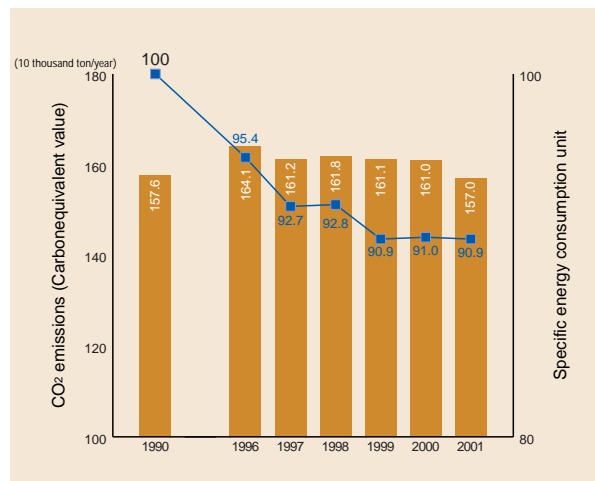
For this reason, Mitsui Chemicals addresses energy conservation aggressively in order to meet targets and improve the specific energy consumption unit 1% per year.

Measures, including increasing the efficiency of processes, introducing cogeneration and careful controls on energy use, have been implemented.

As a result, the chemical industry's fiscal 2010 target of reducing energy unit consumption to 90% over the fiscal 1990 level was achieved in 1999.

Practicing committed energy conservation in future, improvements in energy efficiency have been addressed, and CO₂ emissions at the 1990 level were set for 2010.

CO₂ emissions and the specific energy consumption unit

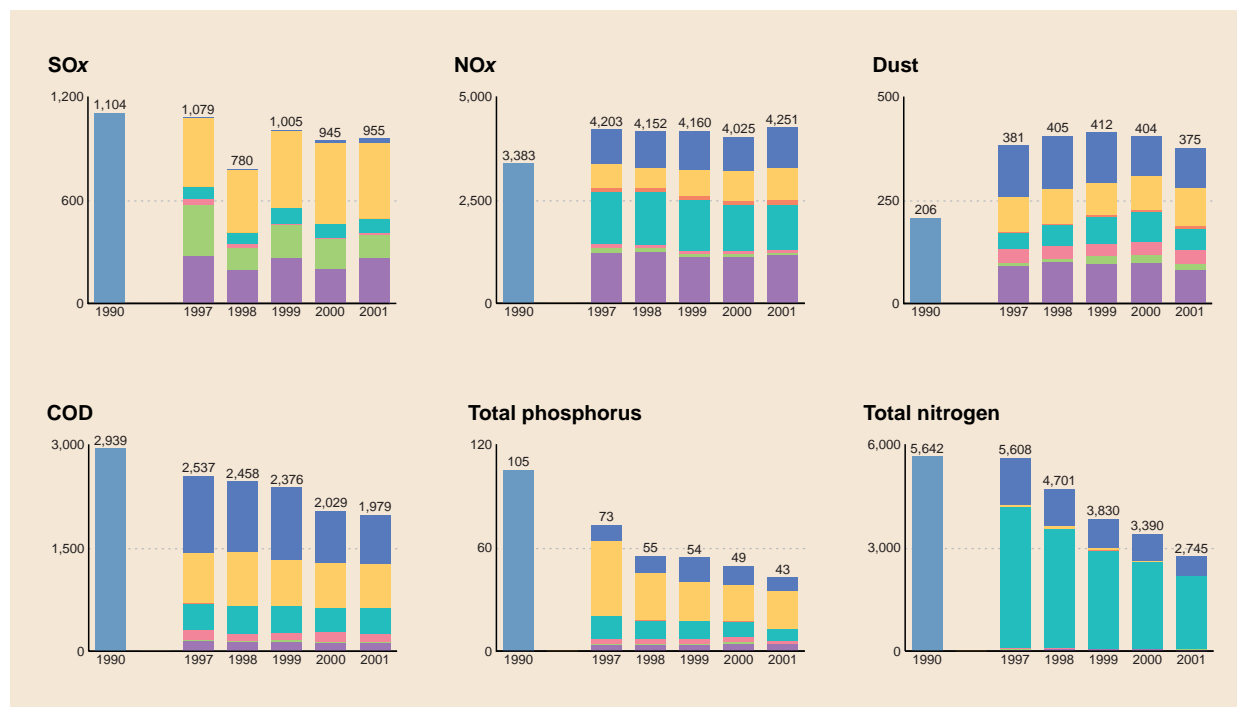


*Osaka Petrochemical Industries, Ltd., added from fiscal 2001

Progressive Reduction in Environmental Load Emissions

Mitsui Chemicals has always made efforts to reduce such air pollutants as SO_x, NO_x, and dust, and to reduce water pollution caused by COD, phosphorus, and nitrogen.

Changes in environmental load emissions (ton/year)



Company-wide ■ Ichihara Works ■ Mobarra Center ■ Nagoya Works ■ Osaka Works ■ Yamaguchi SM Plant ■ Iwakuni-Ohtake Works ■ Omuta Works ■

Environmental Air Load Reduction on Schedule

■ Reduction in Hydrocarbon (Hexane) Emissions

Ichihara Works uses hexane as a solvent at its polypropylene plant. In October 2001, the works installed pressure swing absorption (PSA) equipment to collect hexane and nitrogen to reduce hexane emissions as set out in the Chiba Prefecture pollution prevention agreement and independent guidelines for environmental load reduction.

As a result, the works collected 280 tons of hexane in fiscal 2001 as well as nitrogen, to be effectively recycled.



PSA equipment

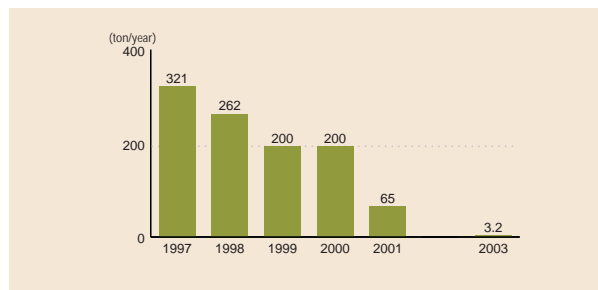
■ Reduction in Benzene Emissions

Omuta Works has begun developments in this area in line with the chemical industry's voluntary commitment in 1997, which aims to reduce the emission volume of benzene. The works plans to reduce its annual emissions to 3.2 tons by 2003.



Exhaust combustion facility

Changes in benzene emissions at Omuta Works



Measures to reduce benzene emissions at Omuta Works

Fiscal year	Volume reduced (ton/year)	Measures
1997	64	Reinforcing benzene recovery from by-products
1998	42	Installing emission vapor return piping when using a tank truck for deliveries
1999	79	Changing solvents for extractants in materials contained in wastewater
2001	135	Installing emission vapor return piping when using a tank truck for deliveries Installing wastewater stripping units Reinforcing the vent condenser

Waste Reduction

Mitsui Chemicals focuses on reducing industrial waste as part of its efforts to establish a recycling-oriented society.

Based on the 3Rs (reduce, reuse, and recycle) concept, the Company emphasizes reducing emissions (reduce) from manufacturing processes, reusing waste (reuse), and recycling by-products (recycle).

Disposal status for each type of waste in fiscal 2001

Type of waste	Generated volume	Internal recycling	Volume reduced	Landfill disposal at the works	Discharged outside the works	External recycling	Reduced volume in external disposal	External final disposal
Sludge	110,989	0	55,082	43,262	12,645	3,705	0	8,940
Waste acid	3,838	3,822	0	0	16	16	0	0
Waste alkali	2,542	364	1,618	0	560	559	0	1
Waste oil	68,278	67,539	0	0	739	737	0	2
Others	64,392	4,883	13,723	10,563	35,223	26,677	6,072	2,474
Total	250,039	76,608	70,423	53,825	49,183	31,694	6,072	11,417

Note: The figures for sludge are the dehydrated volume. Recycling includes the reuse of waste oil as fuel.

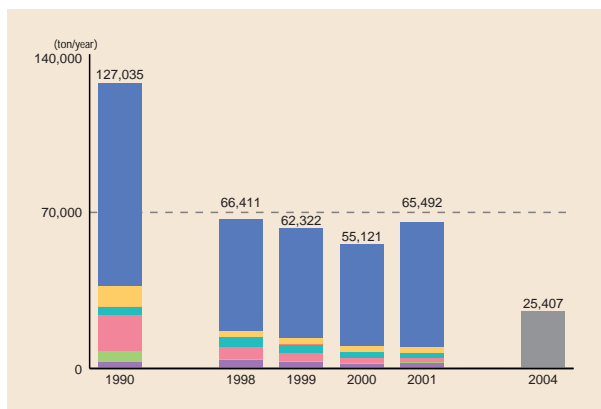
Target Value for Waste Measures

An 80% reduction in 1990 landfill disposal volume by 2004 has been set as the Company's target.

The main objectives for fiscal 2001 were as follows:

- ◆ Eliminate organic sludge by ozone treatment (reduce)
- ◆ Reuse waste sulfuric acid (reuse)
- ◆ Use sludge as material for cement (recycle)
- ◆ Convert waste catalyst into valuable resources (recycle)

Waste landfill disposal volume



Ichihara Works Mobara Center Nagoya Works
 Osaka Works Yamaguchi SM Plant
 Iwakuni-Ohtake Works Omuta Works Target

Note: The volume of sludge increased because of a change in the Omuta Works operation.

Effective Use of Resources

It is required under the Law for the Promotion of Utilization of Recyclable Resources (which came into force in April 2001) to decrease waste and promote recycling for a variety of products across a range of industries.

The chemical industry is designated as a specified resource conservation business and mandated by government ordinances to draw up and submit plans to set goals and specific measures to restrict the generation of by-products and other issues. Accordingly, Mitsui Chemicals drew up and submitted to the government a five-year plan that focuses on reducing the generation of by-products and final disposal volume.

Legal Compliance

Several measures are being taken against air pollution and water pollution, following legal requirements and agreements with relevant local governments.

Proper Use of Agricultural Chemicals

In April 2002, the Ministry of Agriculture, Forestry and Fisheries announced that they had discovered dioxins in pentachlorophenol (PCP), which was marketed mainly as a pesticide for paddy rice from 1954 to 1986. The ministry also instructed Mitsui Chemicals and other companies that were registered as pesticide manufacturers of products containing PCP to recall such products.

At present, Mitsui Chemicals is working with other manufacturers of products containing PCP to establish a PCP product collection center that would be responsible for the collection of PCP products based on information gathered from toll-free calls from agricultural producers who stock PCP products.

Soil Treatment

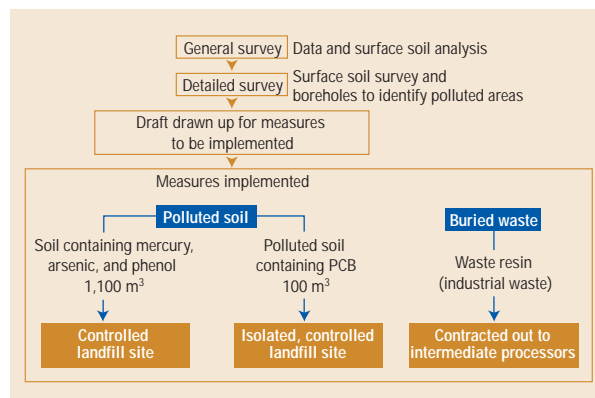
Appropriate Soil Disposal at the Former Ofuna Laboratory Site

Mitsui Chemicals closed its Ofuna Laboratory and disposed of approximately 86,600 m² of brownfields located in Yokohama, Kanagawa Prefecture. The laboratory was relocated to Sodegaura, in Chiba Prefecture, in order to integrate research divisions.

In disposing of brownfields, research was conducted and measures were taken under the instructions of specialists following the Yokohama City Guidelines for the Prevention of Soil Pollution at Former Plant Sites (July 1986) and the Kanagawa Prefectural Technical Manual for Measures for Soil and Groundwater Pollution (revised July 1995).

After confirming that no soil or groundwater pollution remained, the closed laboratory site was disposed of in December 2001.

Soil Disposal Flow Chart



Commitment to Process Safety and Disaster Prevention

Ongoing product reputation and trustworthiness in society are ensured through a positive commitment to preventing accidents and eliminating occupational hazards.

Securing Safety

Mitsui Chemicals has made a concerted effort to ensure safety. In addition to making improvements in the reliability of our facilities by utilizing a process safety and disaster prevention system, we paid particular attention to the following points in fiscal 2001.

1. Company-wide inspections regarding the technology factor of safety
2. Nurturing a staff that is well-versed in safety at manufacturing worksites
3. The implementation of measures, such as workplace safety inspections and informing employees of similar accidents
4. Establishing cooperation with contractors and eliminating gray zones

Internal Safety Policy for High-Pressure Gas

Mitsui Chemicals obtained certification for people to conduct inspections or security inspections in order to certify the safety practices at four works and 53 facilities following the High-Pressure Gas Safety Law. Certification is granted by a minister for significant outstanding work, and the safety management and implementation systems at high-pressure gas facilities are qualified based on an evaluation of their efforts.

Name of works	Date of certification	Number of certified facilities
Ichihara Works	02/22/99	22
Osaka Works	08/01/00	26
Iwakuni-Ohtake Works	09/01/97	1
Yamaguchi SM Plant	06/07/01	4

Plans and Drills for Area Process Safety and Disaster Prevention

In preparing for an emergency, extinguishing drills, calling, and notice are performed periodically. Disaster prevention drills are prepared for the annual plan for each work site and performed as appropriate, but general disaster prevention drills covering the whole company are planned periodically in a concerted effort by the public fire service and the self-defense disaster prevention unit.

In addition, joint disaster prevention drills are conducted with the public fire service and peripheral enterprises as mutual-assistance drills.



A disaster prevention drill at Osaka Works

Dealing with Accidents

■ Prevention

Educational and training programs are conducted at each workplace following a schedule to prevent accidents. Security patrols and head office audits are also carried out to support this effort.

■ Containing Accidents

To contain accidents when they happen, a task force is maintained at Head Office and each work site for a quick response in line with the Company's risk management rules.

Each of the works has a self-protection disaster prevention organization that, together with an internal fire brigade, gives regular training sessions on what should be done first when an accident occurs.

Disaster prevention drills (Nagoya Works)

Unified drills with the public fire service	<ul style="list-style-type: none"> • Conducted at the works every five years • Drills, which are organized by the Nagoya city area petroleum complex special disaster prevention council, are conducted in turn by relevant affiliates and subsidiaries. • Assuming a fire breaks out at a plant, drills are conducted and cover such areas as the dispersing of toxic gas, lifesaving and first aid for the injured, and the use of foam extinguishers. Fire helicopters join the drill. • Drills are conducted jointly about every two years with the public fire department within the works.
Disaster prevention drills at the works	<ul style="list-style-type: none"> • Emergency drills are conducted about every three months with the attendance of plant managers. (Comprehensive disaster prevention drills are conducted twice a year.)
Drills at each plant	<ul style="list-style-type: none"> • Drills are conducted once or twice a month, according to the section's annual plans.

Commitment to Occupational Health and Safety

Mitsui Chemicals gives top priority to ensuring occupational health and safety and has a goal to develop an appropriate work environment and promote employees' health through voluntary practices.

OHSAS 18001

The number of occupational accidents seems to have bottomed out in many industries, including the chemical industry. This is also true for Mitsui Chemicals.

In addition to previous safety protection activities, Mitsui Chemicals laid down risk assessment procedures to identify and reduce workplace hazards. Mitsui Chemicals is endeavoring to acquire OHSAS 18001 certification, a standard for occupational health and safety, to assist in preventing occupational accidents and improving the workplace environment.

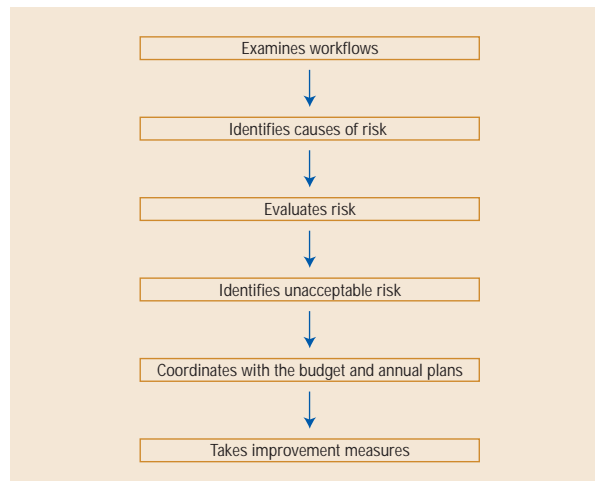
Nagoya Works was the first in the Company to acquire certification in June 2002.

Mitsui Chemicals expects to acquire similar certification at other works by the end of fiscal 2003.

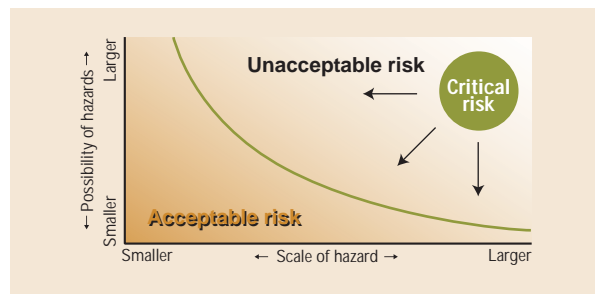
As shown in the figure on the right, the OHSAS 18001 risk management procedure examines risk from all workflows, identifies the causes of the risk, evaluates the degree and likelihood of hazards, and implements improvements in order of the magnitude of the risk.

Adding OHSAS 18001 to existing measures to predict hazards, making proposals for improvements, and promoting safety through hazard prevention activities will result in a safe environment and workplace culture.

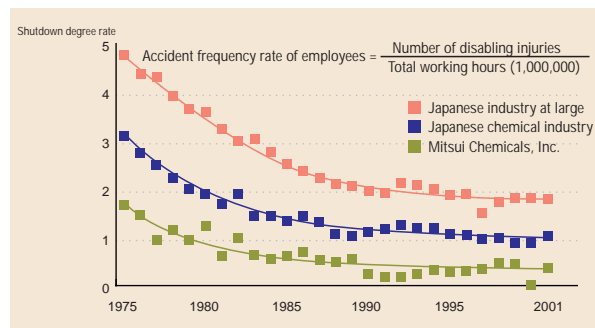
OHSAS 18001 risk management procedure



Schematic chart of risk



Accident frequency rate of employees



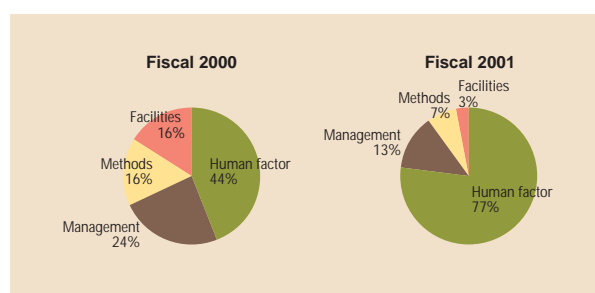
Occupational Safety

As occupational accidents are often caused by human error, Mitsui Chemicals' works are developing activities to promote the awareness of and responsiveness to safety. Efforts are made to focus on discussions between hierarchies.

EHS activities at the works

Ichihara Works	Puts into practice activities that give repeated incentives to employees Discussions to promote safety in the workplace/Shift SE activity/Proposals for hazard prevention activities
Nagoya Works	Spreads and promotes the awareness of safety activities Video discussion/Trio inspection/Three-minute meetings
Osaka Works	Individual audits for a safety-oriented workplace and standardization of employee participation in safety promotion
Iwakuni-Ohtake Works	Changes awareness of safety at the works Reestablishment of the works' safety management system/Clarification of gray zones
Omuta Works	Promotes activities to give regular incentives to employees Diagnosis by external organizations and safety seminars
Laboratories	Creates a culture that observes basic rules Campaign among employees to pay attention to safety (safety morale improvement activity)

Factors in occupational accidents



Occupational Health

Various approaches to occupational health management have been addressed with the health management divisions of the Head Office, works, and laboratories, promoting the company-wide development of the occupational health management system.

1. Mental health care:

Promotes mental health care by providing mental health education, conducting job stress surveys, and offering counseling

2. Environmental management:

Improves and maintains the work environment at the works and laboratories, focusing on patrolling the workplace

3. Health management:

Pays appropriate attention to employees while they are on duty and gives health care instructions after medical check-ups.

Although the company-wide ratio of time lost due to illness is decreasing, absence due to mental health problems is increasing.

Work Environment Management

By measuring and evaluating aspects of the work environment, we endeavor to secure an appropriate workplace environment.

Improving the Work Environment

The Company has been making efforts to improve the work environment using various medical check-up results, work environment measurements, and health impact results along with input from industrial doctors and health managers patrolling the workplace. Clerical departments have been also developing an aggressive approach to make a clear distinction between where people can and cannot smoke and to the correct VDT work.

Health Management

Mitsui Chemicals understands employees health conditions through medical check-ups and health counseling. Various measures leading to better health have been developed along with those that prevent sickness or injury through health guidance and appropriate job assignment.

Mental Health Promotion Activities

Mental health care is an important issue because statistics show that mental instability is an increasing cause of time lost due to illness. After taking various measures in respective workplaces,



Mental health consultation (at Head Office)

Mitsui Chemicals released a mental health promotion plan in October 2000. This effort has been reinforced since fiscal 2001.

Work environment measurement results in fiscal 2001

Hazardous environment	Number of places measured	Control classification I	Control classification II	Control classification III
OPOSP ¹ -related	111	(110)	(1)	(0)
OHSCS ² -related	43	(43)	(0)	(0)
OPDH ³ -related	14	(10)	(4)	(0)

Notes: 1. OPOSP: Ordinance on the Prevention of Organic Solvents
2. OHSCS: Ordinance on the Prevention of Hazards due to Specified Chemical Substances
3. OPDH: Ordinance on the Prevention of Dust Hazards

An example of improving the work environment

Industrial doctors and those in charge of occupational health pointed out to the Sodegaura Center a discovery from their patrols that a person trying to carry out a periodical inspection of the exhaust fan of the local exhaust equipment is likely to fall off. This problem was solved by installing a protection fence.

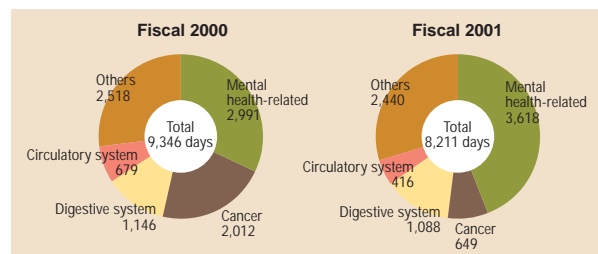


Before improvement



After improvement

Description of time lost due to illness



Symptom diagnosis rate at special medical check-ups in fiscal 2001 (Check-up rate 100%)

Related laws	OPOSP	OHSCS
Symptom diagnosis rate in the numerical standard	0.60%	0.30%
Symptom diagnosis rate along with workplace hazards	0%	0%

Company-wide mental health promotion plan and results

Results in fiscal 2001

- Full public relations
 - Features an article on mental health care in the Company's public relations magazine
 - Provides self-care information on the Company's intranet
 - Improves the environment by making use of the workplace stress evaluation scheme
- Support for mental health-related education
- Support for the mental health response functions of health management divisions
 - Allocates counselors to all workplaces and encourages nurses to acquire qualification as industrial counselors
 - Reinforces cooperation with external specialized medical institutions and psychotherapists
 - Supports workplaces by providing internal senior industrial counselors
- Improving the workplace system
 - Integrates the mechanism for establishing on-the-job measures and job resumption programs

Commitment to the Safety of Customers and Consumers

Product safety provides a platform to achieve goals in RC areas, such as environmental preservation, process safety and disaster prevention, occupational health and safety, and quality.

Taking this fully into account, Mitsui Chemicals strives in all its activities to ensure product safety by working with the chemical industry at large, relevant organizations, and the government.

Comprehensive Chemical Management

RC is the reinforcement and promotion of comprehensive chemical management. There are unscientifically unresolved issues involving the safety of chemicals on a global scale, an example being the recent year's endocrine disruptor issue. As for chemical management under such a situation, the development of safety evaluation technology and the full maintenance of safety information have advanced through international cooperation with the industry, academia, and government. Mitsui Chemicals participates in this process through international cooperation between the government and the industry as well as independently undertaking a proactive program of evaluating the safety of its products and maintaining information based on RC systems.

High Production Volume (HPV)

High Production Volume (HPV) is an OECD program to obtain and evaluate safety data regarding existing chemicals with production volumes over 1,000 tons per country as well as to prepare reports on the results. Mitsui Chemicals leads the industry in collecting and evaluating safety data on 2, 2, 6, 6-tetramethyl-4-hydroxypiperidine (TAAM), the results of which were reported and approved in the OECD meeting in March 2002.

Safety Information

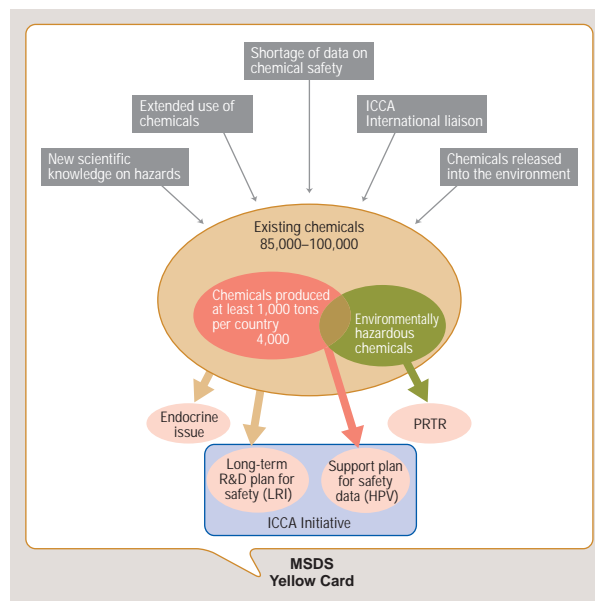
Mitsui Chemicals publicly discloses safety information on its products. In 2000, it became mandatory to provide material safety data sheets (MSDS's) pursuant to the Law Concerning Reporting etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (the PRTR Law), the Law on Industrial Safety and Hygiene, and the Poisonous and Deleterious Substances Control Law.

Mitsui Chemicals prepares MSDS's for all company products, not only those required by law, and provides them to all those concerned. In addition, the MSDS format follows the requirements of relevant laws.

Warning Labels

Mitsui Chemicals attaches its own warning labels to product containers, urging caution when handling chemicals.

The labels give information on hazards and how to handle the products contained. Mitsui Chemicals established its own standards based on internationally recognized standards.



MSDS



Warning label

Commitment to Quality Management

Mitsui Chemicals acquired ISO 9000 certification and addresses quality management company-wide. The Company addresses important issues to reduce complaints while responding to the 2000 revision of ISO 9000 standards.

ISO 9000 Acquisition Status

Mitsui Chemicals is working on the 2000 revision of the ISO 9000 standards. This revision requires continual improvements and customer satisfaction. As for continual improvements, a system that attempts to produce improvements in a planned manner was developed in compliance with the PDCA cycle of management systems.

Regarding customer satisfaction, a system that makes use of information from customers, including complaints, was adopted.

Furthermore, at the works that have ISO 9002 certification, a prototype process for new products has been incorporated into the system corresponding to “design and development.”

Responses to Complaints

In addition to customer satisfaction, complaints related to quality should not arise from the point of product safety. From this point of view, the Company has been making efforts to reduce complaints while dealing with them as essential problems.

Implementation of Director Audits

Periodical audits are conducted by directors to confirm whether activities aimed at achieving customer satisfaction and PL prevention are conducted appropriately. By doing this, the Company promotes a reduction in the number of complaints in light of the annual plans of the divisions and works.

Prevention of Similar Complaints

Quality improvement case studies for the works are collected and evaluated, and some of those case studies that are effective in preventing complaints have been shared with the works.

Analysis of Complaints

Identifying root causes by a logic tree analysis is an effective measure to prevent complaints from recurring. Moreover, we train instructors to teach this analysis throughout the Company.

Legal Compliance Education

To ensure thorough legal compliance, company-wide education schemes have been put in place. Regarding product quality management, we focus on the Product Liability Law and its case studies, product safety-related laws and application procedures, and internal product safety rules.



An environmental safety audit

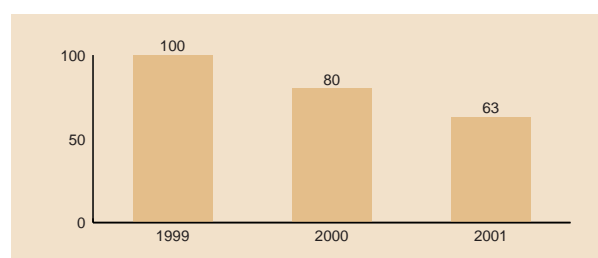
ISO 9000 acquisition status

Works	Type of standards	Examination entry number
Ichihara Works	ISO 9001:2000	JQA-0311
Mobara Center	ISO 9002:1994	JQA-QM6451
Nagoya Works	ISO 9001:1994	JCQA-0164
Osaka Works	ISO 9002:1994	JCQA-0199
Yamaguchi SM Plant	ISO 9002:1994	JCQA-0683
Iwakuni-Ohtake Works		
Petrochemicals	ISO 9001:2000	JQA-0285
Pellicle	ISO 9001:2000	OOQR · 287
Piping system	ISO 9001:2000	96QR · 020
Omuta Works	ISO 9002:1994	JCQA-0692

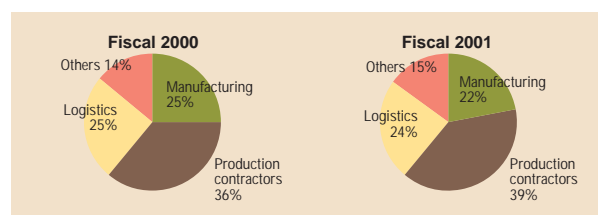
Audit results

Audit matters	Evaluation	Issue
Product safety management	Delayed safety evaluation on some of the new products	A safety evaluation should be conducted as appropriate during the development process.
Purchasing management	Insufficient audit for container manufacturers	Suppliers' quality management should be clarified by these audits.
Quality management education	Company rules not well-disseminated and no more education needed on methods	Educational programs should focus on PL prevention and customer satisfaction.

Number of complaints (compared with fiscal 1999 (100))



Breakdown of complaints



Commitment to Logistics Safety

Mitsui Chemicals has formulated rules for safe transportation and endeavors to establish the Yellow Card and MSDS systems to ensure that all those concerned are well informed.

The Company developed the Mitsui Chemicals Emergency Measure Covering Network (MENET) to minimize accidents and hazards during product transportation.

Logistics Safety

Mitsui Chemicals drew up environmental and safety control instructions, MSDS distribution rules for the Logistics Division, Yellow Card management rules, and audit rules for logistics contractors. The Company provides logistics contractors with Material Safety Data Sheets (MSDS's) and requires them to carry a Yellow Card while involved in ground transportation.

As part of its annual plans, Mitsui Chemicals provides training and education programs as well as business audits to contractors. The whole Company and contractors work closely together to prevent accidents and preserve the social environment. Efforts include holding the Preservation Promotion Meeting and a meeting of the disaster prevention council at the works as well as a meeting of the logistics council at Head Office and branches.



Yellow Card

The Yellow Card shall be carried by the drivers of cargo trucks and other trucks, fire and police departments in an emergency.

Items described:

Property of chemicals	Safety information
Emergency handling procedures	Person to contact

Examples of logistics council activities

Transmits and exchanges logistics information	Request for the prevention of resin pellet leakage Information about the progress of a plan for a mobile storage tank transportation information database
Considers accident cases	A wing trailer containing bisphenol A overturned. A truck containing urethane scattered its contents. Occupational accidents on Company premises (two cases)
Thoroughly observes logistics safety measures	Rules for labeling exported containers containing hazardous substances (labeling with UN numbers) Thorough observance of the Yellow Card system (drivers must carry one during transportation)

MENET

In the event of an accident during the transportation of products, Mitsui Chemicals developed MENET in order to be ready for an emergency.

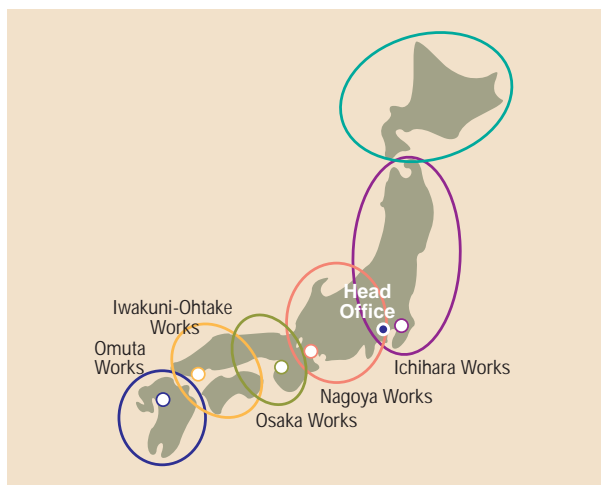
Dividing the whole nation into six areas, in the event of an accident, the Company established a system that achieves speedy handling by offering support from the nearest works.

For more immediate action, regional contractors and logistics warehouses established an emergency system that is equipped with disaster prevention equipment and materials at all times and is under the control of relevant works.

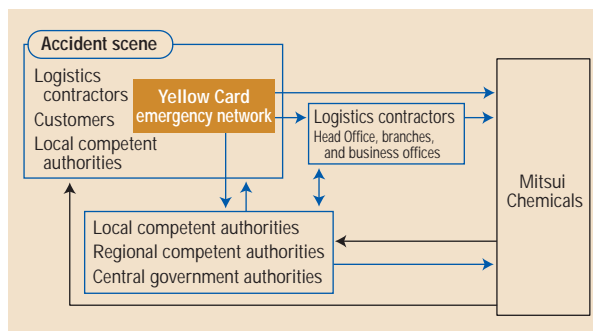
Providing Education and Conducting Emergency Drills

All relevant employees undergo education and training to maximize safety. Furthermore, emergency drills are conducted with transportation companies.

MENET Support Bases



MENET Emergency Network



An emergency drill

Analysis and Assessment of Environmental Impact

As a comprehensive chemical company, Mitsui Chemicals contributes to environmental preservation with its accumulated technologies by manufacturing and marketing products with low environmental loads.

The Company further enhances its extensive efforts for environmental preservation through its environment-friendly system development and process improvement.

Eco-Efficiency Environmental Impact Assessment

In fiscal 2001, to evaluate the relationship between environmental preservation and economic factors in the Company, Mitsui Chemicals started to analyze and assess environmental impact throughout its processes, from research and development to manufacturing, and to show the results in terms of eco-efficiency. With this method, Mitsui Chemicals is endeavoring to reduce environmental load by manufacturing products of higher value with a process that has less environmental impact.

Efforts for Eco-Efficiency Analysis

Eco-efficiency is calculated by dividing the value of the product or service by the environmental impact.

This indicator was proposed at the Earth Summit in 1992 and has been researched subsequently as an important tool for sustainable development.

Mitsui Chemicals conducts eco-efficiency evaluations at the manufacturing stage to confirm that environmental load is reduced in product and process developments.

Unification of Environmental Load

At present, a study is under way that unifies environmentally damaging items, such as CO₂, NO_x, and SO_x. Mitsui Chemicals engaged in unification based on the panel method proposed by Professor Nagata of Waseda University. A unified indicator is used with weights assigned to the environmental load in seven categories: global warming, destruction of the ozone layer, air pollution, water pollution, impact on the ecological system, acid rain, and waste treatment.

Weighting coefficients of environmental load items

Item	Coefficient
CO ₂	1
SO _x	860
NO _x	810
N ₂ O	320
Non-methane VOC	240
Waste	3

Eco-Efficiency Evaluation for the Entire Company

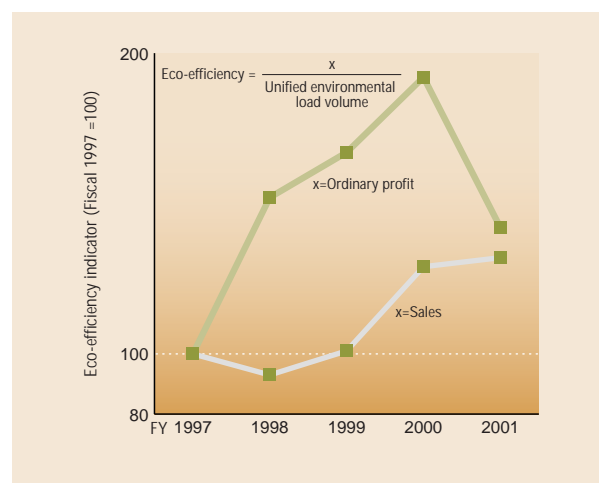
When estimating company-wide eco-efficiency,

- The numerator indicates a non-consolidated ordinary profit or sales.
- The denominator indicates the unified environmental load.

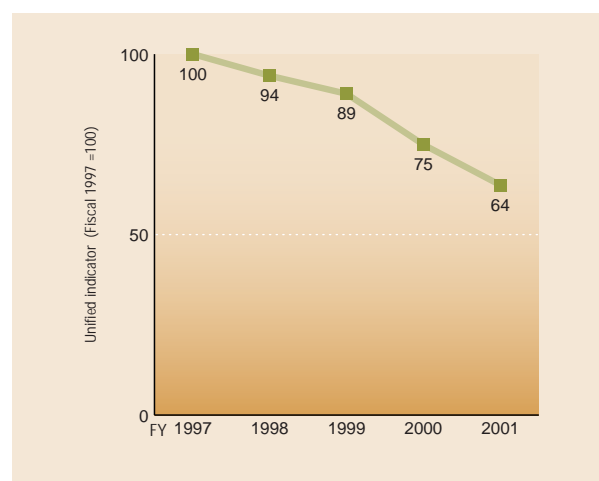
With the fiscal 1997 figure (100) set as a standard, eco-efficiency improved every year up to fiscal 2000 and slightly decreased in fiscal 2001. Ordinary profit, which showed a remarkable drop because of a slack market in Japan, was used for the numerator in the 2001 report, and no significant result was shown in efforts toward environmental load reduction.

Therefore, in the figures below, we show our results using both ordinary profit and sales as corporate value as well as changes in the unified environmental load.

Changes in eco-efficiency indicators



Changes in environmental load unification indicators



Establishing an Evaluation System for Environment-Friendliness

Mitsui Chemicals is committed to establishing a new product evaluation system that is better than the previous eco-efficiency-based system. The new system aims at developing products while taking environment-friendliness into consideration at all stages, from planning and development and merchandising to recycling after use.

Establishing Standards for Hazardous Substances Contained in Products

Product ingredients are evaluated to prevent products from containing hazardous substances.

Hazardous substances are classified into prohibited substances and restricted substances, and usage is decided based on their handling standards and applications. Prohibited substances are never allowed to be used under any circumstances while restricted substances are subject to risk evaluations, and their handling is prohibited or restricted depending on the purpose of the products containing the substance.

Established Method of Evaluating Environment-friendliness

All stages that we take part in, from manufacturing and customer use to disposal, are evaluated according to eight items. Two or more products that have the same functions are compared on the basis of those eight evaluation items. The results are shown in indicator figures (maximum: 1). The closer the evaluation result figure gets to the center of the polar chart, the less environmental load there is. Comprehensive evaluations are conducted based on eco-efficiency.

Environment-friendliness evaluation items

Stage	Item	Evaluation method
Internal manufacturing (A)	Resource availability (A-1)	• Evaluates improvements in raw material basic unit.
	Energy (A-2)	• All the specific energy consumption units for manufacturing. Estimate values to be evaluated at the research stage.
	Emissions into the environment (A-3)	• (Air + water + waste) basic unit at manufacturing. Estimate values to be evaluated at the research stage.
	Costs (A-4)	• Total costs required for manufacturing including operator costs. Construction costs are only applicable for new buildings. Estimate values to be evaluated at the research stage.
Customer use (B)	Energy (B-1)	• Degree of response to the needs of the customers' factories, including weight saving, improvements in strength, productivity
	Hazards (B-2)	• Product hazards and risk in use are considered in degrees and evaluated by indicators.
Disposal (C)	Recyclability (C-1)	• Degree of response to customers' recycling needs
	Hazards (C-2)	• Quantity of restricted substances separately provided by the standards for hazardous substances contained in products, environmental load at disposal, etc.

Making Use of Evaluation in the Development Process

In the development of new products and processes, great attention is paid to environment-friendliness by adding two methods to the conventional risk management system.

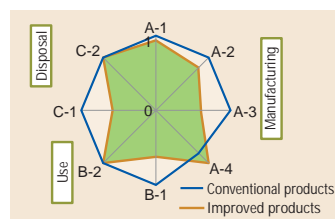
Making use of evaluation at the development stage

Stage	Development process	RC measures
I	Create a concept	Collect and conduct survey on safety information Observe standards for hazardous substances contained in products
II	Brush up the concept, Conduct a survey on market opportunities	Conduct a survey on safety in reference to literature
III	Develop products and conduct a preliminary market survey	Conduct a risk evaluation Conduct an environment-friendliness evaluation
IV	Start full-scale market development	Decide on whether the business should be launched
V	Launch business	Conduct safety measures Market product

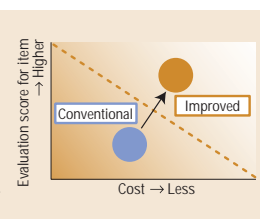
Standards for hazardous substances contained in products

Category	Prohibited substances	Restricted substances
Handling standards	1) Not allowed to be contained in products. 2) Not allowed to be used as ingredients.	1) Prohibited and restricted in use when corresponding to applications. Risk evaluation should be conducted prior to use. 2) Consider replacing with an alternative substance or reducing the quantity contained.
Application	All purposes	1) Products categorized as most hazardous or more hazardous in the PL risk category standards (substances that human bodies may be exposed to) 2) Parts for electric and electronic equipment and automobiles
Applicable substances	Substances prohibited from being manufactured or used according to relevant laws • Substances prohibited from being manufactured according to the Law on Industrial Safety and Hygiene • Class I Designated Chemical Substances as specified 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 • Substances that may contain endocrine disruptors • Substances that may cause sick house syndrome

Chart of Evaluation Results



Eco-efficiency Evaluation



Businesses, Products, and Technologies That Contribute to Environmental Preservation

As a comprehensive chemical company, Mitsui Chemicals places “Harmony with the global environment” as its most important corporate concept for the creation and innovation of materials and substances and has been working to develop products that contribute to environmental preservation and expand the utilization of such products based on the “4R’s” (reduce, recycle, replace, and remediation) concept.

Contribution to Environmental Preservation

The following list is made up of businesses, products, and technologies considered to contribute to environmental preservation in conformity with the 4R’s environmental concept.

The 4R’s scores, showing to what degree each of these businesses, products, and technologies actively contributes to environmental preservation, are also given.

Reduce (reduction in volume)	We are reducing our consumption of raw materials and energy and as well as the quantity of by-products generated. We are also reducing the volume of toxic matter discharged. (Reduction in weight and/or thickness of materials, etc.)
Recycle (reuse)	We recycle disused articles and waste into raw materials and energy. (Recycling of paper, PET bottles, etc.)
Replace (substitution)	We are developing products and manufacturing processes that do not generate hazardous substances and are substituting these for existing products and processes. (Halogen-free products and process innovations, etc.)
Remediation (purification and detoxification)	We make hazardous substances that cause social problems innocuous. (Waste acid recovery, decomposition of dioxins, etc.)

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

■: Product, ■: Business, ■: Technology, D: Reduce, C: Recycle, P: Replace, M: Remediation

Name of product	Name of product	Characteristics and uses	D	C	P	M
Petrochemicals Group						
Wet-type oxidation equipment		We developed technology used in the highly efficient decomposition of wastewater that contains sulfur compounds from various organic-substance manufacturing plants and transform it into harmless treated wastewater.	—	—	—	○
TOUGHTRACE™ (cleaning material for molding machines)		This cleaner, used in processing and molding machines, generates very little waste.	○	—	—	—
HI-ZEX™ for thinner bottles	High-density polyethylene	Bottle rigidity and strength are maintained, yet weight is 15% less than that of existing products.	○	—	○	—
EVOLUE™ for packaging material	Vapor-phase process super-low-density polyethylene	Rigidity and strength of packaging material are maintained even though it is 20%–30% thinner than existing products.	○	—	○	—
ULTZEX™ for soft bottles	Solution process super-low-density polyethylene	Container rigidity and strength are maintained, yet weight is 15% less than that of existing products.	○	—	—	—
Non-halogen flame-retardant PP material	Polypropylene	PP material produced without the use of halogen as the base material (harnesses for automobiles and corrugated tubing)	—	—	○	—
PP material for automobile bumpers	Polypropylene	PP material makes it possible to use a shorter molding cycle than with existing products.	—	—	○	—
Promoting the recycling of PP bumpers	Polypropylene	We studied the formulas of recycled materials/virgin materials to satisfy the performance targets for recycling bumpers made of PP and either announced them to customers or sold the bumpers under our brand name.	—	○	—	—
PP mixed with wood powder, bamboo, corn starch, etc.	Polypropylene	• PP mixed with wood powder: Contributes to reducing the use of wood as a building material. • PP mixed with bamboo: Used in egg containers, etc., as a substitute for paper. • PP mixed with starch: Used for convenience store lunch packaging because this PP is biodegradable.	○	○	—	—
PP material for concrete panels	Polypropylene	This PP material can reduce the use of wood when shuttering made of this PP is used instead of wood shuttering for concrete panels.	○	○	—	—
Powder extruding and molding technology (project entrusted to us by METI)	Polypropylene	This technology can shorten the molding process by molding PP resin directly from powder and can reduce energy consumption in the manufacturing process by about 1/3.	○	—	○	—
High-speed heat cycle injection molding technology		The surface appearance of molded products produced using this molding technology is superior to that of products molded by the existing molding method. Either no coating process is needed or the frequency of coating can be reduced at the time the surface is being finished.	○	—	○	—
Basic Chemicals Group						
PET recycling system	PET (polyethylene terephthalate)	Waste PET resin is recycled and used in pallets and garbage bags.	—	○	—	—
Functional Polymeric Materials Group						
Microgel Dispersion Hofmann PAM	Polyacrylamide	This strength reinforcing agent for cardboard does not increase COD or BOD beyond the levels for the starch used in existing products.	—	—	○	—
Non-chromate (chrome-free) anticorrosive coating		This anticorrosive coating does not use hexavalent chromium, which is harmful to the human body.	—	—	○	—
Base paper impregnated with a coating agent for decorative panels as a substitute for vinyl chloride film		A decorative board base-paper coating agent that uses no chlorine	—	—	○	—
VINYESTER		A non-styrene resin that uses none of the styrene that causes odors in the workshop	—	—	○	—
Chemical recycling process using supercritical water		Supercritical water technology process makes it possible to chemically recycle the residue that is a by-product of the TDI manufacturing process.	○	○	—	—
ADMER™	Adhesive polyolefin	Composition of polyolefin materials	○	—	—	—
TAFMER™	α Olefin copolymer	Modifier improves impact resistance at low temperatures.	○	—	—	—
STRUCTBOND™ XTA	Epoxy resin	A UV-hardening-type transparent adhesive agent for electronics that has excellent high adhesive power and low shrinkage	○	—	—	—
HIMILAN™ NUCREL* AURUM™	Ethylene-based ionomer resin Ethylene methacrylic acid copolymer resin Thermoplastic polyimide	An ethylene-based thermoplastic resin that has excellent transparency and toughness	○	—	—	—
LACEA™	Polylactic acid	A recyclable super engineering plastic	—	○	—	—
BAREX™	Polycrylonitrile	A biodegradable plastic from a vegetable base	○	—	○	—
TAKEMELT♦	Polyurethane	This is most suitable for various packaging materials due to its excellent characteristics, such as gas barrier property, nonadsorbability, and static electricity control.	—	—	○	—
UNISTOLE™ CHEMPEARL™	Olefin resin	Because this rapid-setting reaction-type urethane hot-melt adhesive agent requires no solvent, it contributes to improving the environment.	—	—	○	—
ARLEN™	Denatured polyamide 6T (aromatic nylon)	Paint primers and adhesive agents made of olefin material with excellent chemical resistance	—	—	○	—
MILEX™	Special phenol resin	Heat-resistant and low water-absorbing nylon can be used with lead-free solder.	—	—	○	—
Acrylic resin	ALMATEX	Hardener for IC sealants can be used with lead-free solder.	—	—	○	—
Paint does not discharge VOC into the air when it is used.			—	—	○	—
Functional Chemicals and Engineered Materials Group						
SWP™	Polyolefin synthetic pulp	Substitute for carcinogenic asbestos	—	—	○	—
Decomposing catalyst		Treatment agent to detoxify hazardous metal hydride gases, such as used silane gas discharged in the electrical-device manufacturing processes.	—	—	—	○
Starkle	Ferranicotinyl-based insecticide	Agrochemicals containing no halogen: insecticide consumption can be reduced because this insecticide is highly effective due to its high permeability, migratory effect, and aftereffect.	—	—	○	—
BN300 package substrate	—	Semiconductor package substrate can be used with lead-free solder.	—	—	○	—
FILTOP™	—	Optical filter cuts electromagnetic waves.	—	—	○	—
MEGAX™	Hydrogen iodide	Development of liquid-crystal etching process using no solution	○	—	○	—
Nonwoven fabric	Polypropylene	Curtailment of the use of resources by reducing the thickness of sanitary articles and reducing waste	○	—	—	—
Methyl silane gas	Trimethylsilane, monomethylsilane	Semiconductor low-permittivity material gas	○	—	—	—
Non-halogen circuit material		Materials for electronic circuits, such as that for wiring boards, using a flame retardant that contains no halogen	—	—	○	—
ME catalyst	—	Catalyst decomposes and detoxifies dioxins in exhaust gas.	—	—	—	○
Heat mirror		Heat-ray blocking film contributes to household energy saving.	○	—	—	—
Affiliated companies						
EVAFLEX™ EVAFLEX™-EEA	Ethylene vinyl acetate copolymer resin Ethylene ethylacrylate copolymer resin	Non-halogen flame-retardant ethylene-based thermoplastic resin	—	—	○	—
WARM business	—	Recycling business for difficult-to-recycle waste discharged from plants	—	○	—	○
NOBOROCK	—	Fluorine-removing agent dramatically clears new effluent control standards. It also recycles the removed fluorine.	—	○	—	○
SOLAREVA™	Ethylene vinyl acetate copolymer resin sheet	Highly durable sheet for sealing solar batteries	○	—	—	—
High IC sheet	Electrically conductive polyethylene sheet	Lightweight foaming sheet (IC tray) for electroconductive vacuum molding generates less dust.	○	—	—	—

™: Registered trademark of Mitsui Chemicals, *: Registered trademark of Du Pont, ♦: Registered trademark of Mitsui Takeda Chemicals

Containers and Packaging Materials

(1) HI-ZEX™ (HDPE) for thinner bottles:

We are now developing this product, which reduces container weight by 15% compared to existing HDPE bottles yet maintains performance qualities, including rigidity and strength.

(2) EVOLUE™ (vapor-phase process LLDPE):

This product is 20% to 30% thinner than existing products yet its strength has been maintained at the same level.

(3) ULTZEX™ for soft bottles (solution process LLDPE):

We have developed this product to be 15% lighter than existing containers while maintaining its rigidity and strength.



EVOLUE™

Switching to LLDPE packaging material

Material quality	Thickness (μm)	Impact strength (mN)
EVA	200	8,000
Ziegler process LLDPE	150	7,000
EVOLUE™	130	8,000

Polypropylenes Mixed with Wood Powder, Bamboo, and Corn Starch

We are developing various polypropylene (PP) materials to make more effective use of resources by effective utilization of waste, etc.

(1) PP mixed with wood powder:

This contributes to reducing the use of wood as a building material.

(2) PP mixed with bamboo:

This is used in egg containers, etc., as a substitute for paper.

(3) PP mixed with corn starch:

This is used in lunch containers used by convenience stores.



PP mixed with bamboo



PP mixed with corn starch

Powder Extruding and Molding Technology (Simple Plastic Manufacturing Technology)

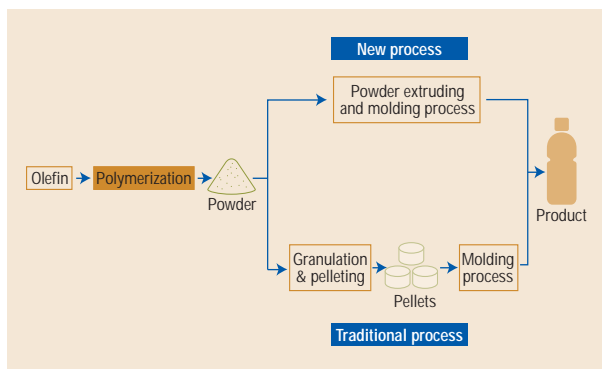
We are developing powder extruding and molding technology (Simple Plastic Manufacturing Technology) through a project entrusted to us by the Ministry of Economy, Trade and Industry (METI).

Polypropylene (PP) resin is usually processed into pellets and then shipped. With this new technology, the extruding and molding process can use PP powder directly, and the pelleting process (from powder to pellet) can be eliminated. As a result, drastic energy savings can be expected.

Reductions of about 1/3 the energy used in PP resin manufacturing processes can be expected.

This technology is also applicable to other polyolefins.

Powder molding



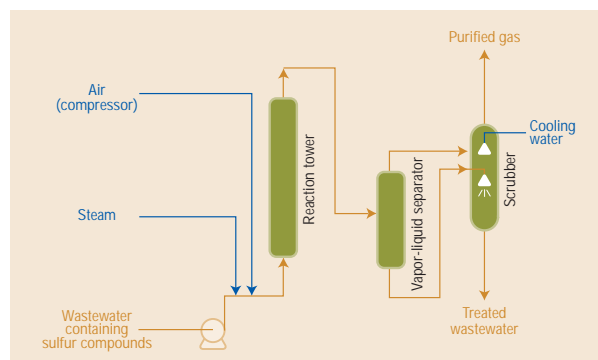
Wet-Type Oxidation Facility

The wet-type oxidation facility developed by Mitsui Chemicals is an energy-saving efficient wastewater treatment facility with the following characteristics.

This facility very efficiently decomposes wastewater that contains sulfur compounds from various organic-substance manufacturing plants, such as ethylene plants; as a result, COD of waste water drops sharply.

- This facility can treat wastewater at lower temperatures than combustion-type facilities.
- The COD removal rate is high (98%).

Wet-type oxidation mechanism



Wet-type oxidation facility

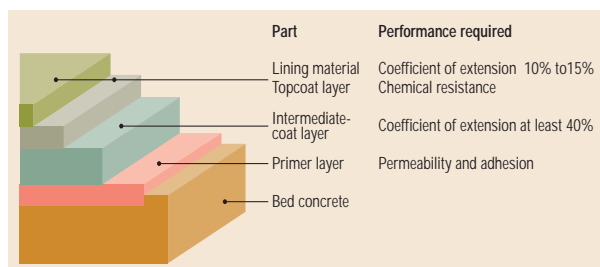
VINYESTER Styrene Free Resin

Unsaturated polyester resin has good workability and rapid hardening speed as well as good physical properties, so it is used in a wide range of FRP fields. However, the odor of styrene, the main raw material in unsaturated polyester resin, has recently become an issue, and requested the consideration to environment.

Mitsui Takeda Chemicals, Inc., therefore developed VINYESTER, a new styrene free resin that has no styrene odor.

VINYESTER has no styrene odor and is most suitable for construction work in closed areas, floor repair work in food manufacturing plants, and construction work in residential areas. Its workability and performance are the same as for conventional unsaturated polyester resin. We are promoting application development for VINYESTER, mainly as linings and decorative boards.

Overview of VINYESTER lining

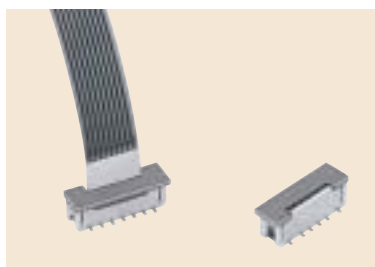


Polyamide for Use with Lead-Free Solder

Mitsui Chemicals developed and commercialized a new material, the first in the world with improved reflow heat resistance as semi aromatic polyamide, for use with lead-free solder in the manufacturing of electronic parts.

Conversion from existing lead eutectic solder to lead-free solder is progressing in the electric and electronic parts industry, which has recently been carrying out measures to solve environmental problems. However, the melting point of lead-free solder is higher than existing solder, so the reflow temperature for soldering electronic parts to substrates has to be higher than before. Therefore, heat-resistant resins that can withstand temperatures higher than those previously used are in demand as a base material for parts.

We reviewed the composition of the aromatic polyamide resin (modified polyamide 6T) that we have been manufacturing until now and have recently developed a new resin called ARLEN™. This product has excellent rigidity and a high melting point (320°C), equivalent to that of super engineering plastic, and can be used under reflow conditions with lead-free solder.



Connectors produced using ARLEN™

Insecticide Containing No Halogen

Mitsui Chemicals marketed its epochal new insecticide Starkle in May 2002.

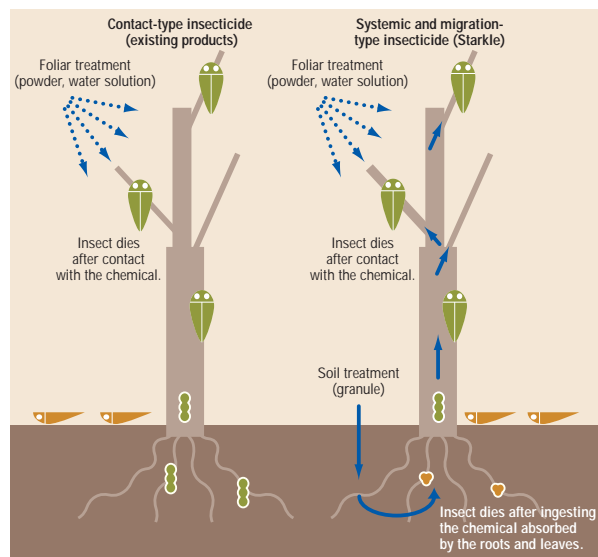
Dinotefuran, the active ingredient of this insecticide, has systemic characteristic in plants, and controls sucking and chewing pests in both foliar and soil applications even if not directly applied. This insecticide does not contain halogen group elements, such as chlorine which often contained in other insecticides. Dinotefuran has minimal environmental risk and extremely safe to non-target organisms.

Major characteristics of Starkle:

- Broad insecticidal spectrum
- No phytotoxicity to crops
- Systemic in plants
- Very safe for mammals
- Very safe for fish, shellfish, and birds
- Has less influence on the spiders and predatory mites that are the natural enemies of major harmful insects
- Rapidly biodegradable

We have applied to the U.S. Environmental Protection Agency (EPA) for a new registration. Dinotefuran was approved, by EPA, to be entered in the evaluation program as organophosphate alternative and in the Reduced Risk Plan to human health, to non-target organisms and to environmental fate. The registration target year is 2005.

Starkle insecticide concept



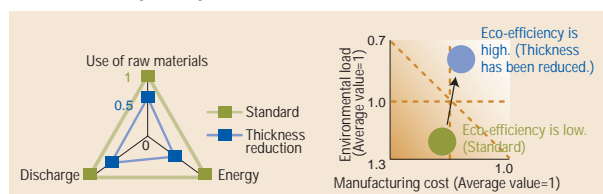
Nonwoven Fabric for Sanitary Articles

Mitsui Chemicals has been working on making thinner non-woven fabric to be used in paper diaper covers, etc., not only to reduce costs but also to contribute to reducing environmental loads.

We have achieved the following regarding reduction in actual environmental loads.

- (1) Reduction in the use of raw materials (use of resources): We reduced the consumption of raw materials by about 40%, from 25 g/m² to 15 g/m².
- (2) Reduction in waste: Product yield has not changed even though bottle thickness has been reduced, enabling us to reduce waste approximately 40%.
- (3) Reduction in energy consumed at the manufacturing stage: We reduced the energy consumed per unit area by about 50% from the previous 6 kWh/100 m² and controlled the generation of CO₂ by changing the process to make products thinner.

Eco-efficiency analysis



Adsorbent to Eliminate Harmful Effects of Metal Hydride Gas

The silane gas (silicon hydride) used in electronic device manufacturing processes ignites spontaneously, and many accidents involving explosions claimed many lives in the past. For this reason, the High-Pressure Control Law of 1991 (now known as the High-Pressure Gas Safety Law) has regulated the setting of various safety measures, including measures to eliminate the harmful effects of silane gas when exhausting it. The Company's adsorbent safely and surely eliminates the harmful effects of toxic metal hydride gases, including the used silane gas exhausted from manufacturing processes. To treat the gas completely, the metal components of the metal hydrides in the gas are fixed in the adsorbent in the form of oxides.

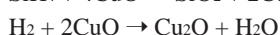


Agent to eliminate the harmful effects of metal hydride gas

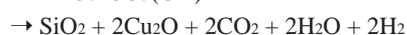
Reaction Mechanisms

Main reactions for monosilane (SiH₄)

- (1) Copper oxide type



- (2) Basic copper carbonate type



Non-Halogen Circuit Material

Halogen compounds (chlorine or bromine compounds) are used as materials for the flameproofing of electronic equipment.

Using a flame-retardant agent that can be substituted for halogen compounds, Mitsui Chemicals developed and commercialized materials for electronic circuits, including a non-halogen-type material for wiring boards.

Examples of Products Developed

- (1) Non-halogen — Epoxy-based adhesive agent
For the adhesion of flexible printed circuits
- (2) Non-halogen — Epoxy resin with high heat resistance
For printed wiring board

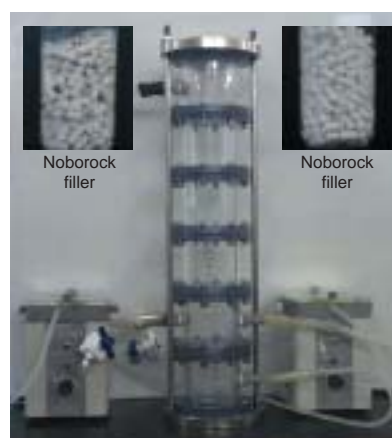
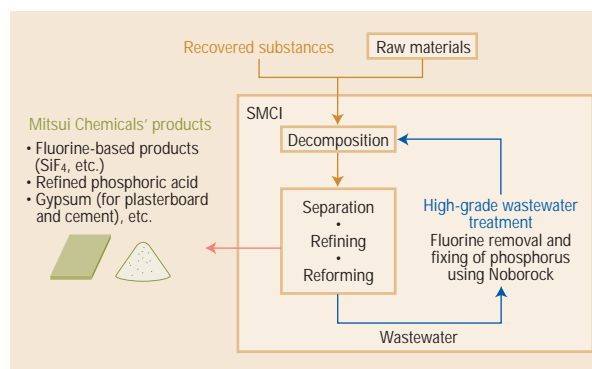
WARM Business (Shimonoseki Mitsui Chemicals)

Shimonoseki Mitsui Chemicals, Inc., an affiliate in which Mitsui Chemicals has invested 100% equity, achieved true recycling by utilizing the waste acids that were previously dumped in final disposal sites, incinerated or mixed with cement.

Fluoric acid, phosphoric acid, sulfuric acid, Glauber's salt, sludge, and other items can be recovered.

In particular, the fluorine recovery agent, Noborock, has dramatically cleared a newly enacted effluent standard for fluorine (8.0 mg/L). Noborock is a highly effective treatment that will bring the fluorine content in wastewater to below the environmental standard (0.8 mg/L).

WARM business



Experimental Noborock system

PET Bottle Recycling

Because Mitsui Chemicals is Japan's largest manufacturer and seller of PET resin for PET bottles, it develops PET bottle recycling technology and expands the use of recycled products in order to contribute to PET bottle recycling.

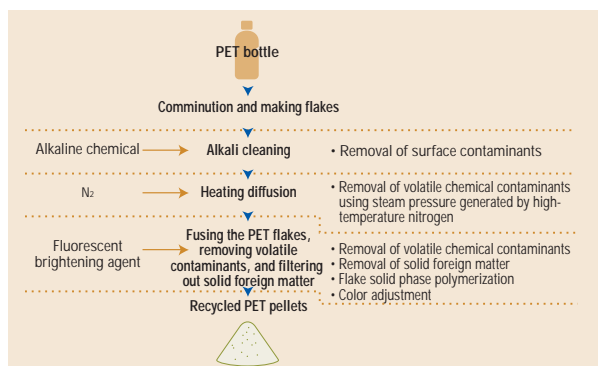
Mitsui Chemical Engineering Co., Ltd., an affiliate of Mitsui Chemicals, improved the equipment at the WITH PET Bottle Recycling Co., Ltd. (Minami-Kawachi-cho, Tochigi Prefecture), which was constructed in August 1993 as the first such recycling plant in Japan. In March 1997, we completed the installation of plant equipment at the Yono PET Bottle Recycling Co., Ltd. (Iga-cho, Mie Prefecture), which has the largest capacity in Japan with an annual treatment capacity of 8,000 tons. In March 1998, we completed the installation of PET bottle recycling equipment with an annual treatment capacity of 8,000 tons at the Nishi-nippon PET Bottle Recycling Co. (Kita-Kyushu city, Fukuoka Prefecture) and completed the installation of PET bottle recycling equipment with an annual treatment capacity of 8,000 tons at the Tokyo PET Bottle Recycling Co., Ltd. (Koto-ku, Tokyo). We are also supporting plans for numerous other large-scale and small-scale plants.

■ Technology for Practical Bottle-to-Bottle Recycling

Five years have passed since the Law for Promotion of Sorted Collection and Recycling of Containers and Packaging went into effect, and the volume of PET bottles collected has increased continuously with the use of recycled products expanding into various fields, including textiles, carpets, and packaging materials. At present, however, the safety and strength of recycled PET in PET bottles for food have not yet been ensured, and bottle-to-bottle recycling has not yet been practically achieved.

Mitsui Chemical Engineering Co., Ltd., is actively researching and developing a process for bottle-to-bottle recycling to recommercialize recycled PET material as bottles for food with the support of the New Energy and Industrial Technology Development Organization (NEDO). We developed the technology for completely removing contaminants by super cleaning and for increasing molecular weight by carrying out flake solid phase polymerization. In this way, we maintained the food safety sanitation and strength required and opened the road to bottle-to-bottle recycling.

Summary of the flow of PET recycling technology



Summary of Technology

- * Practical implementation of super cleaning by a combination of alkali cleaning, superheating diffusion by high-temperature nitrogen, and filtration to remove volatile chemical contaminants and solid foreign matter
- * Increasing molecular weight by flake solid phase polymerization

Distinctive Features

- * Assurance of food safety and sanitation
- * Assurance of strength
- * Further reduction in the level of mixed-in foreign matter
- * Adding this technology to existing equipment process is easy.
- * Recycled PET content: 100%

■ Manufacturing Technology Utilizing PET Bottle Flakes

Previously, it was difficult to use PET resin to manufacture large molded products because of its low fluidity and high melting point, and the impact-resisting strength of molded PET products was low. However, Mitsui Chemicals ensured the impact resistance of PET resin by mixing it with other resins, making it possible to mold pallets with the highest-ever content of recycled PET and greatest-ever maximum loading weight. As a result, we have been able to develop new uses for recovered PET bottles.

Summary of Technology

- * We have ensured impact resistance by mixing PET resin with other resins.

Distinctive Features

- * Molding can be done directly from PET flakes using existing dies.
- * Standard JIS pallets can be molded by modifying the dies.
- * Impact resistance, previously difficult to achieve, has been ensured.
- * The weight of a pallet made of recycled PET, the largest molded product, is 30 kg, so consumption of large quantities of recycled PET can be expected.
- * Recycled PET content: 70%



Recycled PET pallet

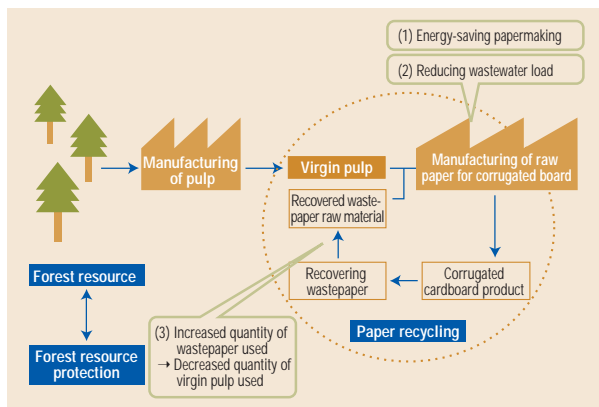


Recycled PET pallet

Microgel Dispersion Hofmann PAM

The pH used in papermaking has been rising along with the increased recycling rate of wastepaper, such as magazine wastepaper, that contains basic substances. Microgel Dispersion Hofmann PAM is very effective in improving paper strength in this condition and can drastically reduce the consumption of paper strength reinforcement agents, simultaneously improving water filtrability and steam unit requirements. This can reduce energy consumption, and the wastewater load can be reduced because of the high yield obtained when Microgel Dispersion Hofmann PAM is used. These factors can increase wastepaper and magazine wastepaper recycling rates and protect precious forest resources, leading to environmental preservation.

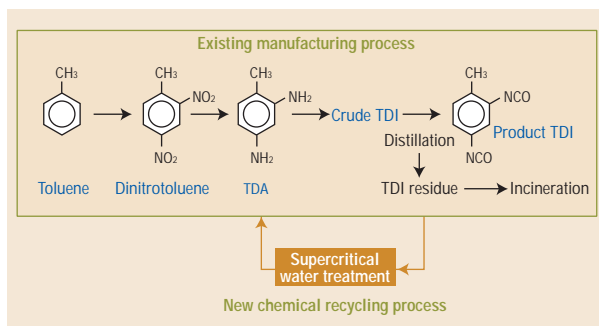
Relationship between paper recycling and resource protection



Chemical Recycling Process Using Supercritical Water

Large quantities of toluene diisocyanate (TDI) are used as the main raw material for polyurethane foam. An epochal process involving the TDI facility at the Kashima works of Mitsui Takeda Chemicals, Inc., a Mitsui Chemicals affiliate, starting in fiscal 2001, achieved resource savings, energy savings, and reductions in the environmental load by using supercritical water technology for the chemical recycling of the residue produced as a by-product of the TDI manufacturing process to produce toluene diamine (TDA), the precursor for TDI manufacturing.

TDI manufacturing process and chemical recycling



Non-Chromate Rustproof Paint

Previously, a chromate layer (chromium plating) was needed as a rustproofing agent for galvanized steel plates, but Mitsui Chemicals has commercially produced an emulsion (water dispersion system) containing ionomer resin as its main component, which requires neither a chromate layer nor an organic solvent. Behind this development are the solvent control regulations, dioxin regulations, Law for Recycling of Specified Kinds of Home Appliances, and EU Directives (the use of heavy metals will be prohibited from 2003).

LACEA™ (Plant-based Biodegradable Plastic)

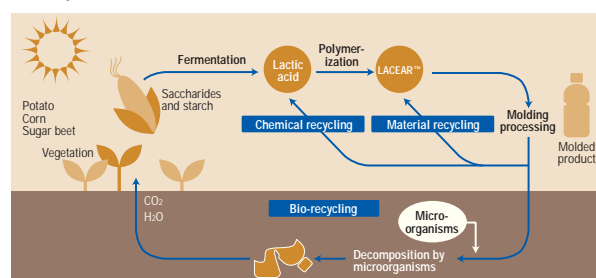
Limited fossil resources are precious and important to us. Lactic acid, which is the raw material for the polylactic acid resin LACEA™, is produced by fermenting glucose obtained from corn and potatoes, and sucrose obtained from sugarcane and beets. When we use even small quantities of a plant-based material, such as polylactic acid, we can save an amount of important fossil resources for our children, grandchildren, and subsequent generations. The incineration of polylactic acid does not increase the amount of carbon dioxide in the air because the carbon source being burned has already been absorbed by plant. A study was carried out to quantify the degree of contribution that polylactic acid has on environmental preservation, and SRI, a consulting company in the USA, presented a report on LCA, stating that the consumption of fossil resources when polylactic acid is produced and finally disposed is 30% less than when PP is used.

The LACEA Division is promoting the market development of LACEA™ that effectively utilizes the characteristics of polylactic acid, which are plant-based and biodegradable, for packaging containers, agricultural and civil engineering materials, compost bags, and cards.



Examples of LACEA™ products

Life cycle of LACEA™



Communication with Society

Mitsui Chemicals endeavors to develop the communities of which it is a member and in which it operates, as stated in its corporate vision: “contributing to local communities.” In addition, the Company discloses information through a variety of channels in order to maintain good communication with all stakeholders.

Communication with Local Communities

Plant Tours

Plant tours are one of the activities Mitsui Chemicals carries out to communicate with local communities. The tours are held several times a year for a range of participants, including local residents’ associations, women’s associations, and students from elementary school through university. The total number of tour participants has reached 2,386.

Governor Domoto’s Visit to Ichihara Works

In June 2002, Ms. Akiko Domoto, the governor of Chiba Prefecture, visited Ichihara Works and Sodegaura Center.

At Ichihara Works, Governor Domoto visited the ethylene plant and other facilities and was given an explanation of the works’ RC efforts. She greeted our employees warmly and talked with many of them.

At Sodegaura Center, Governor Domoto was given an explanation of our research and development strategies and efforts on environmental issues. She also visited the research and experimental facilities. At the product exhibition section,



the governor was surprised to find that Mitsui Chemicals products are used in so many different and important areas.

Governor Domoto visiting the Ichihara Works

Public Relations Magazines

In order to improve communication with local communities and encourage local people to understand what we do as much as possible, all our works publish a number of public relations magazines. These magazines introduce the works’ activities for local communities and contain information to encourage all our stakeholders to find out more about our RC scheme.



Public relations magazines published by our works

Environmental Volunteer Activities

All our works encourage their employees to engage in volunteer activities for environmental preservation in the local community. Efforts include cleaning-up activities organized by local governments and those undertaken voluntarily by employees.

Participation in Regional Activities

In their role as a part of a community-oriented chemical company, all our works enthusiastically take part in regional councils and organize their own events.

Regional communication activities taken part by our works

Works	Organized tours	Publishing PR magazines	Volunteer activities	Events organized by the works
Ichihara Works	Six tours with a total of 348 participants Events for local elementary school students, members of the Japanese Federation of Chemical Workers’ Unions, and plant tours organized by the Ministry of the Environment	<i>Chigusa</i> , published twice a year	Once a month with a total of 150 participants Cleaning up roads at the site	Mitsui Chemicals festival, boys’ baseball games, and soccer games
Mobara Center	Three tours with a total of 130 participants For local elementary and junior high school students and local residents		Lunch hour on the Tuesday of the second week of every month with 50 participants at a time Green volunteers (cleaning up around the works)	
Nagoya Works	Ten tours with a total of 250 participants For women’s associations and schools	<i>Tangodori</i> , issued twice a year from 10/28/02	Once a year with 100 participants Cleaning up roads and parks (occasionally cleaning up along Route 23)	Friendly softball matches between schools in the six areas
Osaka Works	Occasional tours with a total of 700 participants For local government employees and elementary schools in Takaishi City as well as local residents	<i>Takashinohama</i> , published twice a year	Four times a year with a total of 720 participants Participation in the Osaka Bay cleaning project and cleaning up outside the works’ premise	Boys’ rubber-baseball games, girls’ kickball games, and bon dance festivals organized by the Company house residents’ association
Yamaguchi SM Plant	One tour with a total of 16 participants Ube City environmental monitors for offensive odors			
Iwakuni-Ohtake Works	Fifty-six tours with a total of 440 participants For elementary and junior high school students	<i>Ozegawa</i> , published twice a year	Twice a year with a total of 211 participants Cleaning up around the works and quay walls of Iwakuni Port	Mitsui Chemicals autumn festival
Omuta Works	Nine tours with a total of 152 participants School district public hall liaison council	<i>Tokayama</i> , published twice a year	Three times a year with a total of 585 participants Event 5S (cleaning up roads and weeding around the works)	
Sodegaura Center	Ten tours with a total of 350 participants For people from newspaper companies, police stations, and local government employees		Four times a year with a total of 326 participants Cleaning day (cleaning up beach areas in Sodegaura City)	

■ Dialogue with Local Residents

Our works regularly contact local community representatives and other people in communities and make every effort to respond to their requests.

■ Dealing with Complaints

Along with regular discussions, our works strive to respond quickly to complaints from time to time and act in an accountable way.

Cooperation in the JRCC Regional Explanatory Meetings

To keep the local community well informed about RC, the Japan Responsible Care Council (JRCC) holds regional explanatory meetings throughout Japan, in regions where petrochemical complexes are located.

Mitsui Chemicals, as a JRCC member, endeavors to promote the understanding and awareness of RC by helping to arrange meeting venues and providing lecturers.



Regional explanatory meeting in the Iwakuni-Ohtake region

Examples of complaints and solutions

Works	Description of complaint	Solution
Mobara Center	Complaint about noise from nighttime operations	The situation was improved.
Nagoya Works	Residents living to the south of the works complained of yellowish white spots found on the windows of their houses and cars, which must have been caused by emissions from Mitsui Chemicals works' chimneys.	Samplings and an analysis revealed that the material contained grains of sand, pollen (cellulose), etc.
Osaka Works	Noise and flames emitted from the flare stack	The problem was discovered during regular maintenance and repair. The relevant personnel explained to local residents that they had already notified the city government of the situation and inserted flyers inside local newspapers. Thus, we succeeded in getting them to understand our situation.
Iwakuni-Ohtake Works	A complaint was made about black smoke being emitted during a certain time from the chimney of one of the power generation boilers.	The works was aware of the problem even before it received the complaint and immediately took measures to stop the black smoke from being emitted. It voluntarily reported the status of the situation and measures taken to prevent the problem recurring to the relevant government authorities.
Omuta Works	A complaint was made about purple and black smoke being emitted from the boilers and black smoke being emitted from the incinerators.	Measures to halt the purple smoke emissions had already been taken. The works explained that the black smoke was emitted temporarily when plant equipment was started up or after experiencing some trouble.

Lending equipment for regional activities	Participation in regional councils	Providing lecturers to other regions for training
Making its playground available for boy's baseball games, games by business organizations, and JEF United Ichihara. Lending its gymnasium to a social dance association and groups that play various kinds of ball games.	Director of the Chiba Prefecture High-Pressure Gas Preservation Council Director of the Chiba Prefecture Federation of Labor Standard Association Director of the Chiba Prefecture Environmental Preservation Council, etc.	Giving a lecture at the Chiba Prefecture Environmental Preservation Council and joining a meeting organized by the Ichihara City Chamber of Commerce and Industry
Lending its playground to the city board of education, city baseball association, schools, and local authorities. Lending its gymnasium to schools and dance associations.	Director of the Mobara Labor Standards Association Vice president of Choseigun County and the City Hazardous Substance Safety Association, etc.	Chiba University lecturers, instructors for mock exams for the Japan Association for the Safety of Hazardous Materials, and lecturers on forklift skills, etc.
Cooperation in a variety of sports events	Chairman of the Nagoya City Area Petroleum Complex Special Disaster Prevention Council, vice chairman of the Aichi Prefecture High-Pressure Gas Safety Association, member of the Steering Committee Meeting on Environmental Preservation Research, etc.	Foundation chemical engineering seminar organized by the Japan Chemical Industry Association (JCIA)
Lending the playground for boys' baseball games and practices, and its gymnasium for practice sessions by mothers' volleyball groups.	Chairman of the Sakai Senboku Special Disaster Prevention Regional Council, vice chairman of the Takaiishi Disaster Prevention Council, vice chairman of the Takaiishi City Fire Prevention Administrator Workshop, Osaka Prefectural Petrochemical Complex Disaster Prevention Headquarters members, Osaka Prefectural Hazardous Substance Disaster Prevention Liaison Council Headquarters members, etc.	University lecturers, instructors for seminars on high-pressure gas skills examinations, instructors for seminars for persons handling hazardous substances
	Ube City Environmental Preservation Council, Ube City Offshore Water Quality Liaison Council, etc.	Providing lecturers to public universities
Lending its playground for soccer games, boys' sports groups, and games and practice sessions by junior high school students	The High-Pressure Gas Safety Institute of Japan, Chugoku Branch manager, Hiroshima Prefecture Petroleum Facilities Disaster Prevention Headquarters council leader, director of the Iwakuni Labor Standard Association, etc.	Lecturers for seminars on high-pressure gas, handling hazardous substances, and handling Category I pressure containers
Lending its playground for boys' soccer games and golf practices	The High-Pressure Gas Safety Institute of Japan, Kyushu Branch manager, the Japan Boiler Association Fukuoka Branch manager, vice chairman of the Omuta City Environment Association, etc.	Instructors from the Japan Boiler Association Fukuoka Branch, eight lecturers from the High-Pressure Gas Safety Institute of Japan, Kyushu Branch for preliminary seminars for the examination, etc.
Lending its tennis courts for the city tennis competition	Sodegaura Regional Disaster Prevention Council, Sodegaura Environment Liaison Council, etc.	

Recognition for Environmental Preservation and RC Activities

The Mitsui Chemicals Group received various awards both at home and abroad for its exhaustive RC activities, contributions to environmental preservation, and excellence in technologies.

External Awards

JCIA Award for Technological Excellence

Mitsui Chemicals received a comprehensive award of the JCIA Award for Technological Excellence for its achievement in the commercialization of metallocene-catalyzed linear low-density polyethylene (LLDPE) in vapor-phase synthesis. This award is given for outstanding contributions to technological progress and industrial development. The technology, for which the award was given, was the first to use a metallocene catalyst for manufacturing LLDPE, and this technology is used at the MX plant at our Ichihara Works. Packaging material manufactured using this technology is 20% to 30% thinner than previous products but has the same strength. This, therefore, results in a reduction in waste.

Responsible Care Excellence Award

The NF₃ plant of the Anderson Development Company (ADC) (Michigan, USA), one of our affiliated companies, received the Responsible Care Excellence Award from the Synthetic Organic Chemical Manufacturers Association (SOCMA). SOCMA evaluated ADC's voluntary efforts for safety, health, and environmental management. The efforts include the fact that there have been no accidents or disasters, including with the building contractors, since the plant was constructed in 1997 and that employees take part in activities in harmony with local communities.

Internal Awards

In fiscal 2001, Mitsui Chemicals reviewed the previous recognition system to sustain employee morale and started a company-wide recognition system in order to achieve management goals and internal reform. Evaluation is done from three aspects, namely, past achievements, potential achievements in the future, and innovative abilities.

The Company also recognizes the individual achievements of works employees who are the most responsible for RC activities. Thus, we strive to improve our employees' incentive.

Agrochemicals Group, Life Science Laboratory	President's Award	Development of MTI-446 (product names: Starkle and Albarin)
Mitsui Chemicals Engineering Co., Ltd.	Director's Award	Establishment of PET bottle recycling technology at the Company and an expansion in sales



Receiving the Responsible Care Excellence Award

Date	Award recipient	Name of award	Achievement	Organizer
May 2001	Siam Mitsui PTA Co., Ltd.	Certificate of commendation	Commitment to environmental preservation and safety	Minister of Industry, Thailand
May 2001	Omuta Works	Distinguished service award for railway freight transportation	Commitment to modal shift	Railway Freight Association
May 2001	Iwakuni-Ohtake Works	Letter of appreciation	Recognized in the fiscal 2001 polyethylene materials quality competition as the manufacturer with the lowest number of defects in the past fiscal year	Osaka Gas Co., Ltd.
June 2001	Iwakuni-Ohtake Works	Technology development award	Development of an ice-making coil for ice thermal storage units	Daikin Industries, Ltd.
June 2001	Head Office	Letter of appreciation	Contribution to excellence in quality and new product development for CCD packaging	Sony Corporation
July 2001	Sun Eight Corporation	Progress Award—The Yamaguchi Prefectural Labor Bureau Director's Award	More than 2,500 consecutive days without an accident	Labor Bureau, Yamaguchi Prefecture
August 2001	Nagoya Works	Letter of appreciation	Long-term road cleaning activities	Minister of Land, Infrastructure and Transport
October 2001	Hokkaido Mitsui Chemicals, Inc.	Award for effort—The Hokkaido Labor Bureau Director's Award	Recognized as a company that makes significant progress, especially in occupational health measures for handling chemicals	Labor Bureau, Hokkaido
October 2001	Ichihara Works	Green Cross Award	Recognized for its long-time contribution to and significant achievements in promoting and improving industrial safety and occupational health activities in Japan	Japan Industrial Safety and Health Association (JISHA)
December 2001	The NF ₃ plant of Anderson Development Company (USA)	Responsible Care Excellence Award	Responsible care activities	Synthetic Organic Chemicals Manufacturers Association (SOCMA)
January 2002	P.T. Amco Mitsui PTA Indonesia	Letter of appreciation	More than two million consecutive hours without an accident	President of Indonesia
March 2002	Electronics & Information Materials Division, Head Office	Recognized as a Preferred Quality Supplier	Excellence in product quality	Intel Corporation
March 2002	Grand Polymer Co., Ltd.*	Appreciation award for quality	Excellence in quality and a stable supply of polypropylene (PP)	Honda Motor Co., Ltd.
March 2002	Grand Polymer Co., Ltd.*	Appreciation award for quality	Excellence in quality and a stable supply of polypropylene (PP)	Toyota Motor Corp.
May 2002	Head Office	Comprehensive award—JCIA Award for Technological Excellence	Outstanding contributions to technological progress and industrial development for its achievement in the commercialization of metallocene-catalyzed linear low-density polyethylene (LLDPE) in vapor-phase synthesis	Japan Chemical Industry Association

*Grand Polymer Co., Ltd., merged with Mitsui Chemicals, Inc., on April 1, 2002.

Communication with Employees

While Mitsui Chemicals emphasizes communication with society, it believes communication with employees is also important.

The Company believes that the activities expected of Mitsui Chemicals as a good corporate citizen can be achieved by gradually implementing various measures in cooperation with its employees.

Fostering Human Resources

In an attempt to satisfy both the realization of a corporate mission and the realization of a rich life for its employees, Mitsui Chemicals carries out education and on-the-job training programs organized by the Human Resources Division and other departments at Head Office, its works, and laboratories. For this purpose, the Company established two effective systems aimed at realizing the objective of raising the potential and aspirations of Company members.

1. Rotation System to Raise Skill Levels

Mitsui Chemicals established a system to foster the development of management personnel who can lead the Mitsui Chemicals Group in the future as well as raise the skills of specialist personnel to a higher level. This involves a rotation of personnel around different workplaces and duty assignments.

2. Selective-Type (Cafeteria-Style) Education Curriculum (Skill Training)

Mitsui Chemicals provides its employees with a scheme to instill a responsible attitude. To achieve this, we developed a versatile education curriculum that includes courses in language skills, management, sales, legal qualifications, production technology, and information processing to help individual employees develop their own skills and abilities. The Company thus supports its employees in making necessary arrangements for enrollment as well as tuition fees so as to allow them to attend the courses more easily.



Personnel education

Cooperative Efforts with Labor Unions

The Company and labor unions jointly organize a company-wide WHS forum for labor and management twice a year to hold ongoing, active discussions on the environment and safety. Especially for RC activities, labor and management discuss in detail a variety of topics, from medium-term plans (including factor analysis results for workplace accidents and occupational health results) to approaches to occupational health, health management, and mental health. Based on a shared recognition between labor and management, the Company works closely with labor unions to achieve concrete, positive results.



A report on a forum issued by a labor union

Sharing In-House Information

Mitsui Chemicals distributes information as widely as possible throughout the Company by publishing a monthly in-house magazine called *MCI net*. For RC activities in particular, some topics, such as awards, the acquisition of certifications, and training programs, are reported, and the mechanism of the risk management system and case studies are introduced. Furthermore, by reporting employees' opinions expressed through roundtable discussions and debates, we have endeavored to create an interactive in-house magazine.

The Company also carries information on Company rules, personnel transfers, and chemicals on its intranet database, and all employees are able to access and share this information.



In-house magazine *MCI net*

Working with Contractors to Develop Safety

Mitsui Chemicals works with its contractors to develop activities that ensure safety. It is vital for us to closely cooperate with contractors for safety. Our works hold the MCI-Contractors Safety Collaboration Committee and Disaster Prevention Council meetings to ensure much closer communication with contractors.



A regular repair meeting in Osaka

Evaluation of the Responsible Care Report and Communication Activities

We asked all stakeholders to give us their opinions on our Responsible Care Report 2001 issued in 2001. We greatly value your opinion and will make continuous efforts to further improve the report.

Workshop at Ichihara Works

In early September 2002, Mitsui Chemicals held a workshop on its Responsible Care Report 2001, inviting representatives from local communities and the MCI-Contractors Safety Collaboration Committee as well as the participation of those in charge of environmental preservation activities from Head Office and its works. The MCI-Contractors Safety Collaboration Committee takes a comprehensive part in safety management activities for our contractors.

Based on the Responsible Care Report 2001, the Company explained its RC activities to participants to give them a better understanding and encouraged participants to express their opinions honestly. Thus, the workshop worked towards improving the contents of the 2002 issue as well as our RC activities in the future.

Opinions on the Responsible Care Report 2001

We received straightforward opinions on the Responsible Care Report 2001 from the representatives of the Preservation Promotion Meeting, which focused especially on the actual activities we engaged in. Opinions expressed included the following:

- ◆ “The explanation of the report helped me understand the daily RC activities better.”
- ◆ “I think some parts of the report may be a little difficult for the general reader to understand. It should be written in a way that general readers can understand easily.”
- ◆ “It would be easier to understand the relationship between the field staff and management if the concept and purpose of responsible care were explained more simply.”
- ◆ “The section on risk management is basically difficult to understand. Comparisons with field activities would make it easier to understand and capture the interest of readers.”
- ◆ “Clarifying future measures in a specific way will improve the role of this annual report.”

Opinions on Communications Activities at Ichihara Works

Mitsui Chemicals supports daily communication through public relations magazines published by the works. The Company asked for participants' opinions on how it can exchange information through the Responsible Care Report. Opinions expressed included the following:

- ◆ “I would like the Company to hold seminars based on the Responsible Care Report.”
- ◆ “I am satisfied with the Company's commitment to communication activities, as I feel that information disclosure to our local communities is satisfactory so far.”
- ◆ “I would like to have more opportunities for plant tours and exhibitions of final products. I would like you to stimulate our interest in how the Company manufactures its products.”
- ◆ “I would like the Company, as the most environmentally-conscious entity in the community, to participate in activities to promote awareness, together with local community residents and any other stakeholder.”

Participants

Mr. Sadaji Matsumoto
Chairman, Aoyagi Area Neighborhood Association

Mr. Hideyuki Fujisaki
Chairman, Imazu Asayama Area Neighborhood Association

Mr. Mitsumasa Ito
Chairman, Anesaki Getsuyo-kai Society

Mr. Chihiro Nakajima
Sankyu Inc.

Mr. Tatsuomi Mibu
Kajima Corporation

Mr. Hiromichi Yamamoto
Mitsui Construction Co., Ltd.

Mr. Norio Tokita
Mitsui Engineering and Shipbuilding Co., Ltd.

Mitsui Chemicals will make further efforts to improve the quality of its report and promote its activities through more active communication with all of its stakeholders.



Workshop (representatives of local communities)



Workshop (representatives of the Preservation Promotion Meeting)

Works and R&D Center

Ichihara Works

Location: 3, Chigusa-kaigan, Ichihara, Chiba 299-0108

Area: 1,390,000 m²

Major products

Petrochemicals:

Olefin, aroma, and polyethylene

Basic chemicals:

Phenol, BPA, acetone, epoxy resin, ethylene oxide, ethylene glycol, TBA, and aniline

Functional polymeric materials:

Elastomer and synthetic wood pulp



Mobara Center

Location: 1900, Togo, Mobara, Chiba 297-8666

Area: 550,000 m²

Major products

Basic chemicals:

Methacrylamide and acrylamide

Functional polymeric materials:

Unsaturated polyester resin, functional adhesives, coating resin, and resin for paper treatment

Functional chemicals and engineered materials:

Toner binder resin



Nagoya Works

Location: 2-1, Tangodori, Minami-ku, Nagoya 457-8522

Area: 380,000 m²

Major products

Basic chemicals:

Bisphenol A and nonylphenol

Functional polymeric materials:

Polyacrylonitrile resin, special phenolic resin, engineering plastic film, and polyimide materials

Functional chemicals and engineered materials:

Surgical suture (PGA), breathable film, surface protective tape, flexible printed circuit materials, and sputtering



Osaka Works

Location: 1-6 Takasago, Takaishi, Osaka 592-8501

Area: 1,550,000 m²

Major products

Petrochemicals:

Olefin and aroma

Basic chemicals:

Ammonia, urea, phenol, formaline, melamine, acrylonitrile, ethanolamine, acrylamide, IPA, ethylene oxide, and ethylene glycol

Functional polymeric materials:

Adhesives, coating resin, and unsaturated polyester resin

Functional chemicals and engineered materials:

Silane gas



Yamaguchi SM Plant

Location: 13-3, Aza-Nishioki, Oaza-Nishiokinoyama, Ube, Yamaguchi 759-0205

Area: 298,000 m²

Major products:

Styrene monomer



Iwakuni-Ohtake Works

Location: 6-1-2 Waki, Waki-cho, Kuga-gun, Yamaguchi 740-0061

Area: 1,000,000 m²

Major products

Basic chemicals:

Purified terephthalic acid, hydroquinone, resorcinol, meta/para-cresol, and Polyethylene terephthalate

Functional polymeric materials:

WAX, petroleum resin, LUCANT, TPX, MILLION, COC

Functional chemicals and engineered materials:

Gas pipes and pellicles



Omuta Works

Location: 30, Asamuta-cho, Omuta, Fukuoka 836-8610

Area: 2,260,000 m²

Major products

Basic chemicals:

Caustic soda

Functional chemicals and engineered materials:

Aspirin, granulated p-Dichlorobenzene, anticancer agents, amino acids, organic chlorides, organic nitrates, amines, carbonless heat sensitive paper materials, para-amino phenol, monomers for optical plastic lenses, high-performance coloring materials, chloropicrin (active ingredient in insecticides and fungicides), MT-101 (active ingredient in herbicides), Ofunack, Trebon (insecticide), Nebijin (fungicide), and Aniverse (acaricide)



Sodegaura Center (R&D center)

Location: 580-32, Nagaura, Sodegaura. Chiba 299-0265

R&D areas

Functional Materials Laboratory:

Materials for electronic circuits, semiconductors, optical communications devices, signs, and storage media

Process Technology Laboratory:

Industrialized technology

Polymers Laboratory:

High-quality resin and fabricated polymer products

Life Science Laboratory:

Invention of new agrochemicals, breeding of plants, and production of effective substances

Formulated Products Laboratory:

Design, synthesis, blending, evaluation, and merchandising of new resins

Materials Science Laboratory:

Invention of new high-performance products, from molecules to complexes

Catalysis Science Laboratory:

Petrochemicals, basic chemicals, electronics and information materials, pharmaceutical intermediates, compound formula design, catalyst development, and reaction process development



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

Ichihara Works

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

Name of substance	Released into air	Released into water	Released on land	Transfer amount
Zinc compounds (water-soluble)	0	0.417	0	6.760
Aniline	0.296	0	0	0
4, 4'-isopropylidene diphenol	0.001	0.003	0	1.700
Ethylbenzene	0.003	0	0	0
Ethylene oxide	0.720	0	0	0
Ethylene glycol	0.768	0	0	0
Ethylendiamintetraacetic acid	0	0	0	3.165
Epichlorohydrin	2.101	0	0	0
Xylene	1.730	0	0	0
Divanadium pentaoxide	0	0	0	4.069
Tetrachloroethylene	0.100	0.008	0	0
Toluene	11.421	0	0	0
Hydrazine	0	0	0	0.218
Phenol	0.416	0.209	0	53.004
Hydrogen fluoride and its water-soluble salts	0	10.846	0	0.136
Benzene	7.742	0.008	0	0
Boron and its compounds	0	0.417	0	0
α-methylstyrene	0.041	0	0	0
Dioxins	62.6	0.5	0.0	12.1

Mobara Center

(ton/year)

Name of substance	Released into air	Released into water	Released on land	Transfer amount
Acrylamide	0	0	0	18.000
Acrylic acid	0.001	0	0	9.223
Ethyl acrylate	0.093	0	0	0.352
Acrylonitrile	1.325	0	0	0
Ethylene glycol	0.001	0	0	0.611
Epichlorohydrin	0.003	0	0	0.422
ε-caprolactam	0	0	0	0.021
Xylene	0.034	0	0	15.224
Chloromethane	0	0	0	0.100
Styrene	0.241	0	0	7.896
Terephthalic acid	0	0	0	1.483
Toluene	0.044	0	0	3.767
Formaldehyde	0	0	0	22.037
Phthalic anhydride	0.001	0	0	9.662
Maleic anhydride	0.001	0	0	9.556
Methacrylic acid	0.600	0	0	0.120
Methyl methacrylate	7.413	0	0	1.057
Methyl-1,3-phenylene-diisocyanate	0	0	0	0.095

Osaka Works

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

Name of substance	Released into air	Released into water	Released on land	Transfer amount
Zinc compounds (water-soluble)	0	3.800	0	0.560
Acrylamide	0.025	0.063	0	1.000
Acrylic acid	0.077	0	0	0
Ethyl acrylate	0.022	0	0	0
Acrylonitrile	7.900	0.001	0	9.400
Acetaldehyde	0.001	0	0	0
Acetonitrile	0	0	0	0.160
2-aminoethanol	0.100	0.440	0	0
Isoprene	0.090	0	0	0
4, 4'-isopropylidenediphenol	0.210	0.012	0	1.800
Ethylbenzene	2.600	0	0	14.000
Ethylene oxide	1.900	0	0	0
Ethylene glycol	0.160	0.001	0	0
Ethylene glycol monomethyl ether	0.058	0	0	3.800
1,2-epoxypropane	0	0	0	6.100
Xylene	0.420	0	0	16.000
Glyoxal	0.510	0	0	0
Cresol	0	0.001	0	0
Chloroethylene	49.000	0.001	0	0
Chlorodifluoromethane	0.600	0	0	0
Cobalt and its compounds	0	0	0	2.024
Vinyl acetate	0.004	0	0	0
Inorganic cyanide compounds	0.048	0	0	0
1,4-dioxane	0.049	0	0	0
1,2-dichloroethane	0.004	0	0	0
N,N-dimethylformamide	0.050	0	0	8.300
Styrene	6.800	0.004	0	100.000
Terephthalic acid	0	0	0	80.000
Copper salts (water-soluble, except complex salts)	0	0.079	0	8.200
Trichlorofluoromethane	0.525	0	0	0
1,3,5-trimethylbenzene	0	0	0	0.270
Toluene	9.200	0.001	0	5.200
Nickel compounds	0	0	0	0.220
Nonylphenol	0	0.001	0	0
Hydrazine	0	0.088	0	0
Phenol	2.500	0.640	0	10.000
1,3-butadiene	0.081	0	0	0
Di-n-butyl phthalate	0	0	0	0.014
Bis (2-ethylhexyl) phthalate	0	0.0001	0	0
Benzene	9.000	0.160	0	0.001
Poly (oxyethylene) alkyl ether	0	0	0	36.000
Poly (oxyethylene) nonylphenol ether	0.001	0.005	0	42.000
Formaldehyde	0.130	0.025	0	0.110
Phthalic anhydride	0.006	0	0	0
Maleic anhydride	1.500	0.082	0	0
Methacrylic acid	0.220	0	0	0
N-butyl methacrylate	0.001	0	0	0
Methyl methacrylate	2.700	0	0	14.000
α-methylstyrene	1.900	0.001	0	0
Molybdenum and its compounds	0	0.330	0	13.000
Dioxins	0.0	1.2	0.0	0.0

Yamaguchi SM Plant

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

Name of substance	Released into air	Released into water	Released on land	Transfer amount
Ethylbenzene	0.043	0	0	0
2,4-dinitrophenol	0	0	0	0.031
Styrene	0.017	0	0	0
Toluene	0.001	0	0	0
Benzene	67.383	0	0	0
Dioxins	2.4	0.0	0.0	0.1

Nagoya Works

(ton/year)

Name of substance	Released into air	Released into water	Released on land	Transfer amount
Ethyl acrylate	0	0.003	0	0.004
Methyl acrylate	0.008	0.351	0	0.088
Acrylonitrile	1.018	2.795	0	0.312
4,4'-isopropylidenediphenol	0.246	0.006	0	0
Ethylbenzene	0	0	0	0.001
Ethylene oxide	1.187	1.047	0	0
1,2-epoxypropane	30.098	0.556	0	0
Xylene	0	0	0	0.001
1,4-dioxane	0.096	0	0	0
dichloromethane	1.591	0.256	0	27.300
Styrene	0.011	0	0	0.009
Toluene	0.316	0	0	12.197
Nonylphenol	0	0.003	0	0
Phenol	1.581	0.384	0	0
1,3-butadiene	0.800	0	0	0
Bis (2-ethylhexyl) phthalate	0.006	0	0	0
benzaldehyde	0.032	0	0	0
Benzene	2.409	0	0	54.937
Poly (oxyethylene) alkyl ether	0.026	0	0	0
Formaldehyde	0.032	0	0	0
N-butyl methacrylate	0.003	0	0	0
Methyl-1,3-phenylene diisocyanate	0	0	0	1.545

Iwakuni-Ohtake Works

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

Name of substance	Released into air	Released into water	Released on land	Transfer amount
Acetaldehyde	1.440	0	0	0
Aniline	0.028	0	0	0
Ethylene glycol	4.107	0	0	0
1,2-epoxypropane	51.046	0	0	0
Xylene	381.155	0	0	0
Cresol	0.119	0.054	0	0
Cobalt and its compounds	0	0	0	16.662
Cyclohexylamine	0.063	0.204	0	0
Dichloromethane	0.188	0	0	0
Toluene	86.340	0.187	0	0
Phenol	0.009	0.207	0	0
Hydrogen fluoride and its water-soluble salts	0	0.035	0	0
Bromomethane	98.988	0	0	0
hexamethylenediamine	0.020	0	0	0
Benzene	37.416	0	0	0
Manganese and its compounds	0	0	0	7.870
α-methylstyrene	14.446	0	0	0
Dioxins	1.0	0.1	0.0	24.7

Omuta Works

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

Name of substance	Released into air	Released into water	Released on land	Transfer amount
Zinc compounds (water-soluble)	0	0.710	0	1.200
Acrylonitrile	0.560	0.330	0	0.340
Acetonitrile	1.310	0.910	0	4.600
aniline	0.765	0	0	210.000
2-aminoethanol	0.059	0	0	0
M-aminophenol	0	0	0	0.940
Ethylbenzene	0.982	0	0	6.000
Ethylene glycol	0	0	0	22.550
Ethylene glycol monomethyl ether	0	11.000	0	16.000
Epichlorohydrin	0.700	0	0	0.001
Xylene	47.007	0	0	17.100
Cresol	0	0	0	12.000
Chromium and chromium (III) compounds	0	0.830	0	51.000
Chromium (VI) compounds	0	0.027	0	0.210
M-chloroaniline	0	0	0	2.700
1-chloro-2,4-dinitrobenzene	1.300	0.015	0	0
3-chloropropene	0.051	0	0	0
Chlorobenzene	124.000	0.700	0	1.500
Chloroform	0.910	0	0	5.200
Inorganic cyanide compounds	0	0.400	0	0
Tetrachloromethane	6.950	0	0	150.000
1,2-dichloroethane	8.600	0	0	0
1,4-dichloro-2-nitrobenzene	0.200	0.002	0	0
O-dichlorobenzene	35.783	0.002	0	52.600
P-dichlorobenzene	11.000	0.004	0	0
Dichloromethane	15.374	0.470	0	11.630
Dinitrotoluene	0	0.790	0	11.000
2,4-dinitrophenol	0	0	0	55.000
N,N-dimethylformamide	0.395	17.595	0	134.050
Styrene	2.100	0	0	0
Thiourea	0	0	0	1.700
Thiophenol	0.050	0	0	0
Copper salts (water-soluble, except complex salts)	0	0.690	0	3.200
O-toluidine	2.800	0	0	320.000
Toluene	455.304	1.100	0	211.980
2,4-toluenediamine	0	0	0	1300.000
Nickel compounds	0	0	0	0.067
Nitrilotriacetic acid	0	0	0	6.500
P-nitroaniline	0	0	0	0.210
P-nitrochlorobenzene	0.064	20.000	0	0
Nitrobenzene	2.650	0	0	50.000
Barium and its water-soluble compounds	0	0	0	87.000
Picric acid	0.033	0	0	10.000
Arsenic and its inorganic compounds	0	0.052	0	0
Hydrazine	0	0.150	0	0.110
Hydroquinone	0	0	0	1.700
Pyridine	0.051	0	0	0
O-phenylenediamine	0.001	0	0	0
Phenol	3.100	1.600	0	1.300
Hydrogen fluoride and its water-soluble salts	0	14.000	0	0
Benzene	65.300	0.063	0	7.910
Boron and its compounds	0	28.300	0	17.000
Formaldehyde	3.206	12.800	0	3.118
Manganese and its compounds	0	1.300	0	0
Phthalic anhydride	0	0	0	34.000
3-methylpyridine	0	0	0	19.000
Methyl-1,3 phenylene-diisocyanate	1.040	0	0	0
4,4'-methylenedianiline	0	0	0	85.000
Dioxins	0.6	6.9	0.0	0.0

*For dioxins, figures are rounded to the first decimal place.

*For discharges into the soil, landfills are excluded.

Summary

■ Company name

Mitsui Chemicals, Inc.

■ Head Office

2-5, Kasumigaseki 3-chome, Chiyoda-ku, Tokyo 100-6070, Japan

Tel.: +81-3-3592-4060 (Corporate Communications Division)

Fax: +81-3-3592-4211

www.mitsui-chem.co.jp/e/index.htm

■ Business Groups

Petrochemicals

Petrochemical feedstocks, polyethylene, and polypropylene

Basic chemicals

Fiber intermediates, PET resin, phenols, industrial chemicals, and other chemicals

Functional polymeric materials

Elastomers, performance polymers, specialty resins, and urethane

Functional chemicals and engineered materials

Functional fabricated products, electronics and information materials, agrochemicals, and fine chemicals

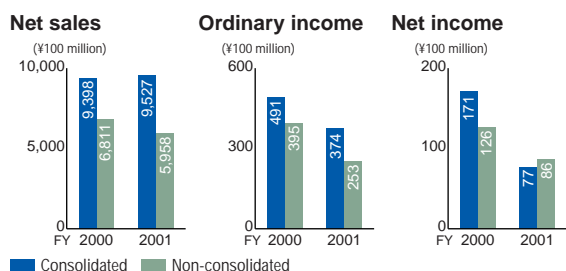
■ Paid-in Capital

¥103,226 million

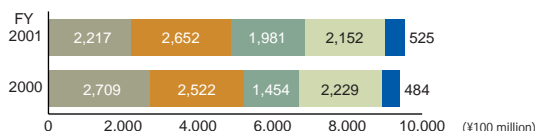
■ Employees (As of March 31, 2002)

13,212 (Consolidated)

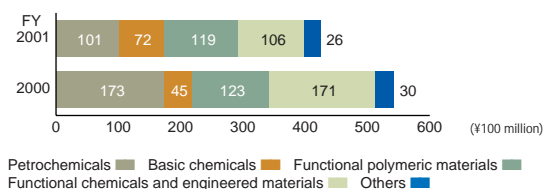
4,909 (Nonconsolidated)



■ Net sales classified by business group (consolidated)



■ Operating income classified by business group (consolidated)



■ Domestic Manufacturing Sites

Ichihara Works (and Mobara Center), Nagoya Works, Osaka Works (and Yamaguchi SM Plant), Iwakuni-Ohtake Works, and Omuta Works

■ R&D Center

Sodegaura Center

■ Domestic Sales Offices

Head Office and three branches (Nagoya, Osaka, and Fukuoka)

■ Overseas Offices

Beijing Office

■ Number of Shares

Total number of shares issued: 789,156,353

■ Major Group Companies

• 79 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 Kagaku Iatche Co., Ltd.; Mitsui Chemicals Engineering Co., Ltd.; Mitsui Chemical Analysis and Consulting Service Inc.

Mitsui Chemicals America, Inc. (USA); Mitsui Phenol Singapore Pte. Ltd. (Singapore); Mitsui Elastomers Singapore Pte Ltd. (Singapore); Mitsui Bisphenol Singapore Pte Ltd. (Singapore); Mitsui Chemicals Europe Holding B.V. (Europe); Siam Mitsui PTA Co., Ltd. (Thailand)

• 97 companies in which the Group holds equity

Toyo Engineering Corporation; Du Pont-Mitsui Polychemicals Co., Ltd.; Du Pont-Mitsui Fluorochemicals Co., Ltd.; Yamamoto Chemicals, Inc.; Japan Polystyrene Inc.; Honshu Chemical Industry, Ltd.

■ Domestic Sites





**Purpose of the Responsible Care Report 2002,
Our Commitment to the Environment, Occupational
Health, Safety and Quality**

This report was prepared following guidelines produced by the Ministry of Environment and the Global Reporting Initiative (GRI) and explains our Responsible Care program in detail.

We encourage you to let us know what you think about this report so that we may further improve both our RC activities and the next report.

Contact us at:
Corporate Communications Division
Mitsui Chemicals, Inc.
2-5, Kasumigaseki 3-chome,
Chiyoda-ku, Tokyo
100-6070
Japan
Tel.: +81-3-3592-4060
Fax: +81-3-3592-4211
www.mitsui-chem.co.jp/e/index.htm



Responsible Care®

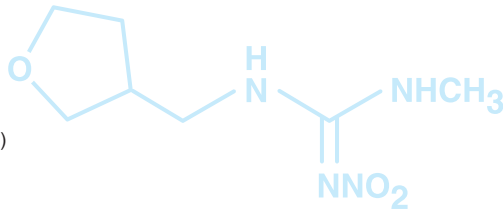
MITSUI CHEMICALS, INC.

2-5, Kasumigaseki 3-chome
Chiyoda-ku, Tokyo 100-6070
Japan

Tel.: +81-3-3592-4060 (Corporate Communications Division)

Fax: +81-3-3592-4211

www.mitsui-chem.co.jp/e/index.htm



About the structural formula on the front cover (Starkle)

The structural formula on the front cover is of dinotefuran, which is an active ingredient in Starkle, a new insecticide developed by Mitsui Chemicals.

It works very well against a variety of harmful insects. This halogen-free insecticide is extremely safe and has a radically lower effect on humans, the ecological system, and the environment. (See p. 26 for related information)