Responsible Care Report 2005

Responsible Care®

DAINIPPON INK & CHEMICALS

CONTENTS

About this Report

- Period under review: Fiscal 2004 (the year ended March 31, 2005)
- Scope: DIC's *Responsible Care Report 2005* summarizes the activities and achievements of the following production and research facilities:

■ DIC:
The Ishikari, Gunma, Tatebayashi, Saitama, Kashima, Tokyo, Chiba, Hokuriku, Komaki, Yokkaichi, Shiga, Suita, Sakai and Fukuoka plants and DIC's Central Research Laboratories

■ Affiliated companies and production facilities of affiliated companies located within DIC plants in Japan:
DIC Technology Corp.; DIC Global Logistics Co., Ltd.; DIC Bayer Polymer Ltd. (Sakai Plant); Shin DIC Kako, Inc. (Shiga Plant, Sakai Plant); Japan Formalin Company, Inc.; DIC EP, Inc. (Kashima Plant); DIC Plastics, Inc. (Shiga Plant); DIC Sheet, Inc.; DIC Color Coating, Inc.; Japan Fine Coatings, Inc. (Suita Plant); Kodak Polychrome Graphics LLC (Gunma Plant); Seiko PMC Corp. (Chiba Plant)

The information in this report is also available on DIC's web site:
http://www.dic.co.jp/eng/rc/index.html

Responsible Care (RC)

"Responsible Care" refers to activities pledged and carried out by companies that manufacture and/or handle chemical substances with the aim of protecting the environment, safety and health (ESH), and to the implementation and continual revision of measures to accomplish this aim throughout the full life cycle of chemical products, from development and production through distribution and use to final consumption and disposal.

CORPORATE DATA

■ Registered name:	Dainippon Ink and Chemicals, Incorporated
■ Corporate headquarters:	DIC Building, 7-20, Nihonbashi 3-chome, Chuo-ku, Tokyo 103-8233, Japan
■ Date of foundation:	February 15, 1908
■ Date of incorporation:	March 15, 1937
■ Paid-in capital:	¥82,423 million (non-consolidated)
■ Number of employees:	4,434 (non-consolidated)
■ Domestic operations:	One branch, nine branch offices, 17 sales offices and 14 plants (non-consolidated)
■ Number of affiliates and subsidiaries:	269 (domestic: 58, overseas: 211)

(As of March 31, 2005)

OPERATIONS

Dainippon Ink and Chemicals, Incorporated (DIC), is the core of the DIC Group, a global market leader with printing inks, organic pigments and synthetic resins as its core businesses. The Group currently classifies its businesses into four core operations.

Graphic Arts Materials Business Operation

Printing inks, printing and prepress supplies, organic pigments

Industrial Materials Business Operation

Synthetic resins, synthetic resin-related products, polymer additives

High Performance and Applied Products Business Operation

Special compounds and colorants, building materials, petrochemical-related products, chemical coatings, pressure-sensitive adhesive materials, plastic molded products

Electronics and Information Materials Business Operation

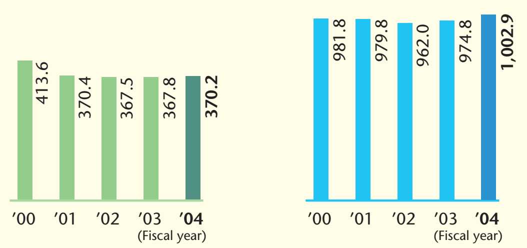
Imaging and reprographic products, liquid crystal (LC) materials, engineering plastics

Financial Highlights

Non-consolidated **Consolidated**

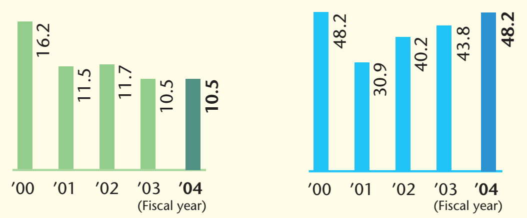
Net Sales

Billions of yen



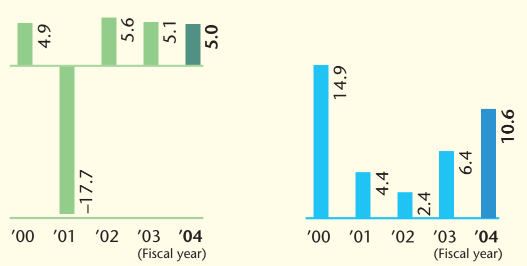
Operating Income

Billions of yen



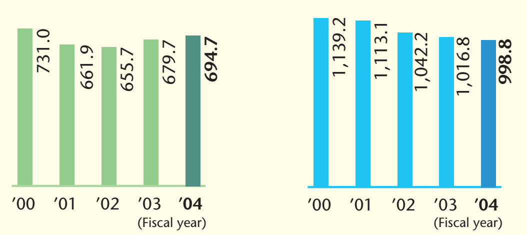
Net Income (Loss)

Billions of yen



Total Assets

Billions of yen



Note: These graphs have been prepared from the accounts maintained in accordance with the provisions set forth in Japan's Commercial Code and Securities and Exchange Law. The scope of consolidation differs from that used for the purposes of this report. In fiscal 2004, DIC had 226 consolidated subsidiaries.

A MESSAGE FROM THE PRESIDENT

Koji Oe
President

I am pleased and proud to present DIC's *Responsible Care Report 2005*. This report summarizes the results of our Environment, Safety and Health (ESH) protection activities during fiscal 2004, ended March 31, 2005.

In 1973, DIC set up an Environment, Safety and Health Committee and in the two decades that followed developed an effective structure to implement ESH at all DIC Plants, sales offices, research and development (R&D) facilities and domestic affiliated companies. In 1992, we established our official Principle and Policy for the Environment, Safety and Health. With the founding in 1995 of the Japan Responsible Care Council (JRCC), of which DIC is a founding member, we unveiled and began implementing a Responsible Care program.

As a manufacturer of fine chemicals, we take a comprehensive approach to environmental preservation, placing particular emphasis on the reduction of greenhouse gas emissions as well as industrial waste disposed of as landfill.

In the period under review, our emissions of carbon dioxide (CO_2) unfortunately rose 1.3% from the previous fiscal year. In fiscal 2005, we will step up efforts to conserve energy to achieve our stated goal of at least a 1.0% reduction annually.

We have set a zero emissions target for industrial waste disposed of as landfill of 370 tons, or 5% of the fiscal 1999 level by fiscal 2007, DIC's 100th anniversary. In fiscal 2004, industrial waste disposed of as landfill totaled 1,560 tons, or 21% of the fiscal 1999 level.

We believe strongly that sustainable growth depends on maximizing our capabilities as a chemicals company to develop and supply environment-friendly products. Highlights of fiscal 2004 included the launch of *Web World New ADVAN* printing ink and *BIO-TENDER*, a biodegradable adhesive printing film. Going forward, we will continue to respond to society's expectations by focusing on the development of environment-friendly alternatives to existing products in our lineup.

To ensure DIC remains a company worthy of society's trust, we have established a stringent risk management program. As part of this program, we will continue to reinforce Responsible Care efforts at Group companies in Japan and overseas. In these and other efforts, we look forward to your ongoing support. As always, we welcome and appreciate comments and suggestions from our readers.

Principle

As a responsible corporate citizen, Dainippon Ink and Chemicals, Incorporated (DIC), recognizes that care for the environment, safety and health (ESH) is fundamental to the management of the Company. DIC is committed to the concept of sustainable development and contributes to society by creating environmentally sound products and technology.

Policy

1. We establish ESH-related objectives and targets and pursue continual progress.
2. We comply with laws, regulations and agreements relevant to ESH.
3. We consider the ESH implications of each of our products throughout their life cycles in accordance with the ideals of Responsible Care.
4. We instill in our employees a thorough understanding of this fundamental Principle and Policy.
5. We organize our operations so as to promote the safeguarding of the environment, safety and health and conduct audits to monitor progress throughout the Company.
6. We ensure that operations are conducted safely and materials are handled properly. We try to prevent environmental pollution and avoid affecting the environment negatively by recycling waste, conserving energy and other resources and using materials that are environmentally friendly.
7. We place the utmost importance on ESH-related considerations at all stages of the new product planning and production process.
8. We promote safety by providing customers with detailed instructions on the proper use and handling of all products.
9. In our overseas activities, we conduct environmental impact assessments and strictly observe local ESH regulations. In the absence of such regulations, we work with local officials and our business partners to develop environmental safeguards. We also follow this procedure when dealing with toxic materials, applying the same stringent standards for their handling as required in Japan. In addition, we promote the transfer of technology and know-how related to environmental protection.
10. We provide the public and appropriate authorities with ample information about our products and business activities so that they may have an accurate understanding of our efforts to promote health, safety and environmental protection.

The above Principle and Policy shall be available to all employees and to the general public. It is our goal that this Principle and Policy be followed at all DIC Group companies.

Established April 1, 1992
Revised February 1, 1996

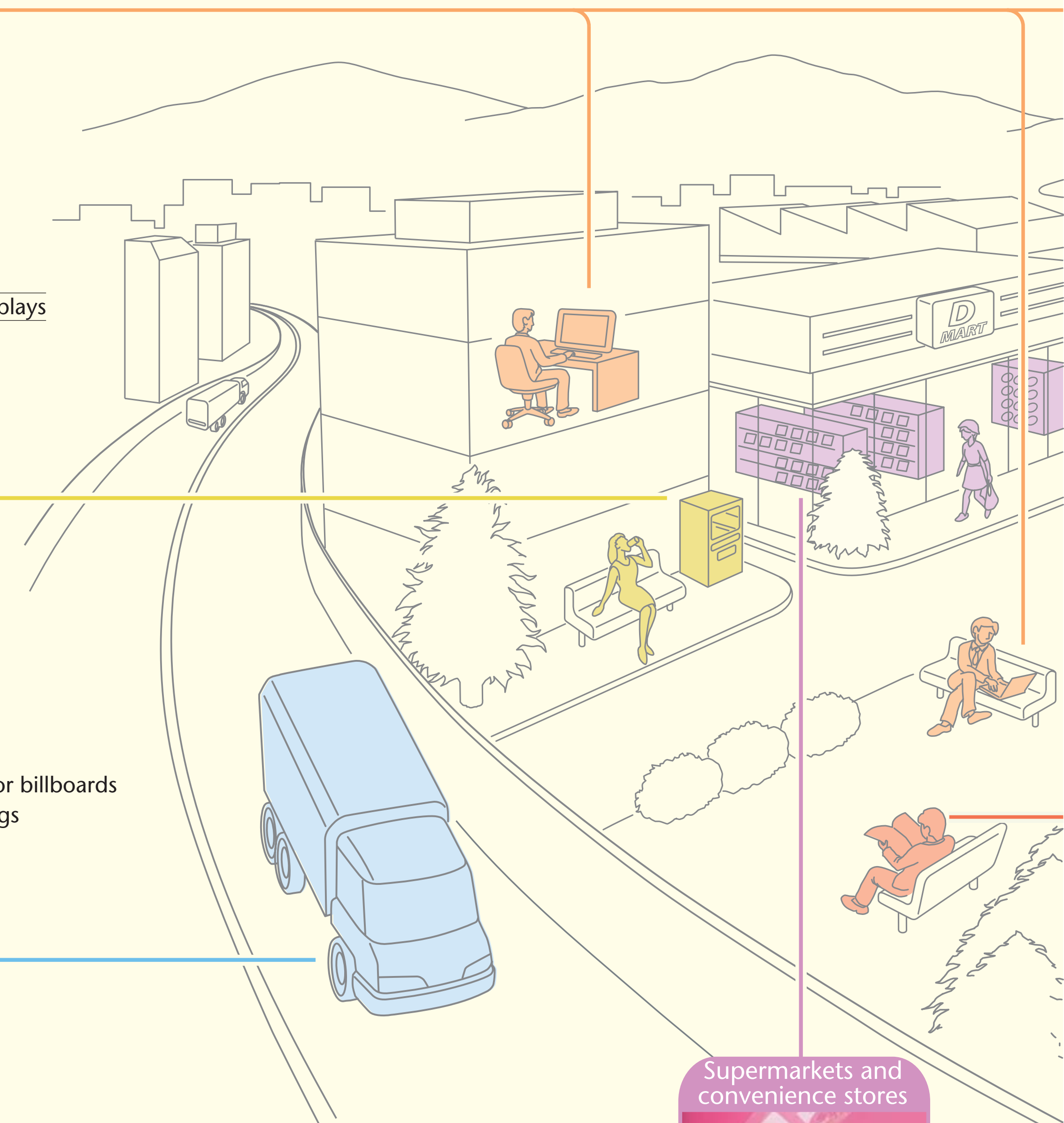
October 2005

Koji Oe
President

DIC was established in 1908 as a manufacturer of printing inks. For nearly a century, the Comany has expanded its printing inks business as well as capitalized on its expertise in synthetic resins, organic pigments and other fine chemicals to diversify into a broad range of other areas. DIC has also applied its proprietary technologies to cultivate businesses in such peripheral areas as petrochemical derivative products, electronics and information materials, building materials and plastic molded products. Today, DIC manufactures approximately 300,000 different products.

Information terminals

Liquid crystal (LC) displays
- LC materials
- Color pastes for color filters



Vending machines

- Double-sided tape for billboards
- Beverage can coatings

Distribution

Distribution/ distribution-related materials
- Plastic pallets
- Plastic containers

Product packaging
- Gravure inks for plastic films
- Packaging films
- Food trays
- Label stock

Supermarkets and convenience stores

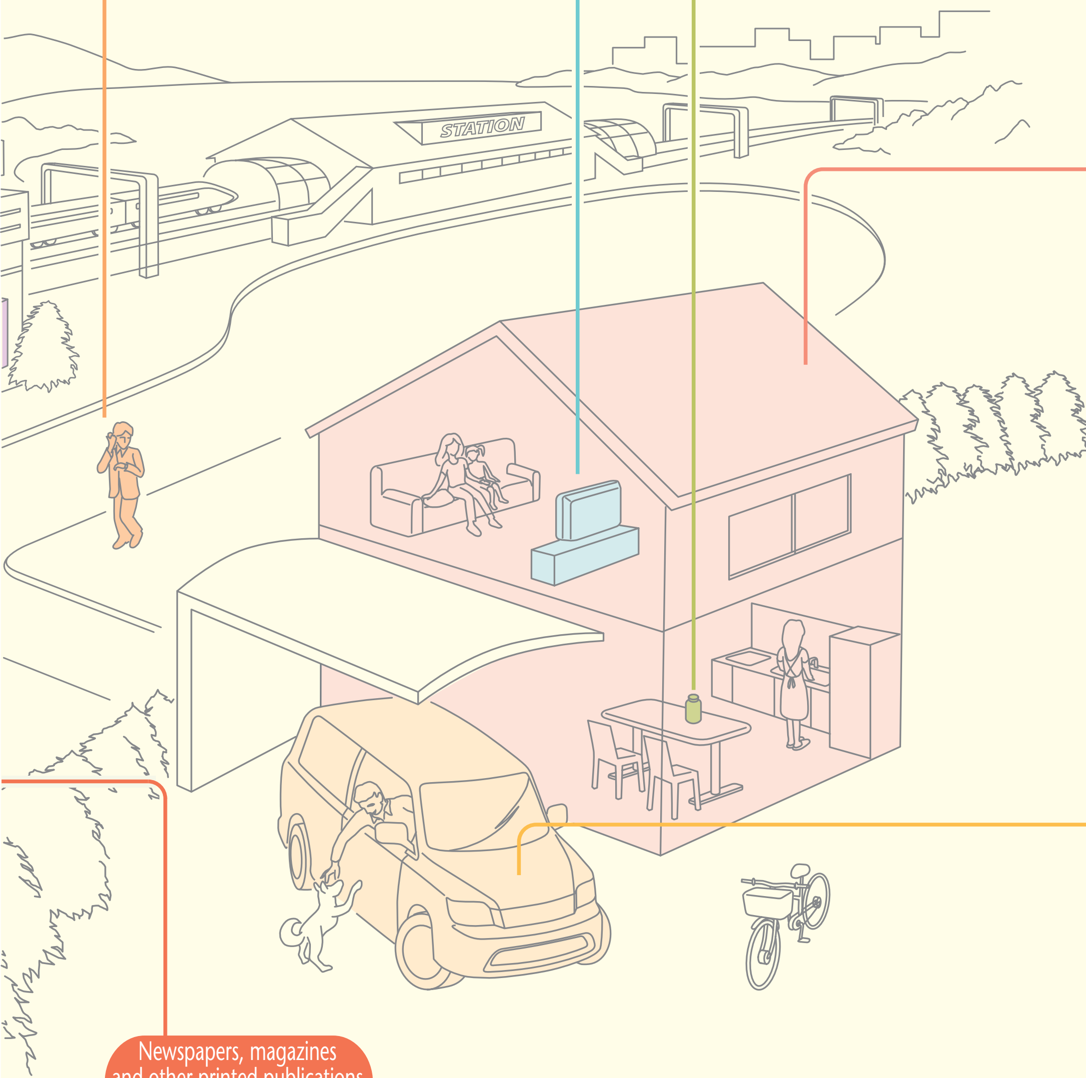
DIC PRODUCTS: AT HOME AND IN THE COMMUNITY

Audiovisual and related equipment

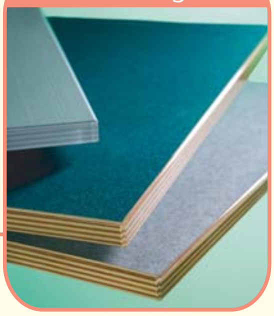
Optical discs
- Optical disc bonding adhesives
- Protective coatings

Food products

- Health foods
- Natural sweeteners
- Natural food colorings



Housing



Residential interiors
- Decorative wooden boards
- Ultraviolet (UV)-coatings for wood floors

Residential exteriors
- Ceramic coating for residential exteriors

Automobiles

Automotive interiors
- Engineering plastics
- High-luminosity metallic decorative sheets

Automotive exteriors
- Resins for automobile paints

Newspapers, magazines and other printed publications

- News inks
- Gravure inks
- Printing inks

DIC products are found in numerous applications in the home and the community. These products are made possible by DIC's organic pigments, synthetic resins and other high-performance materials.

Notes:
1. Organic pigments are used as colorants in inks, plastics and other products.
2. Synthetic resins are used as adhesive agents in inks, coatings, glues and bonding adhesives, as well as for surface protection, and to impart strength (i.e., of paper) or heat-resistant properties.

P11

Energy Consumption

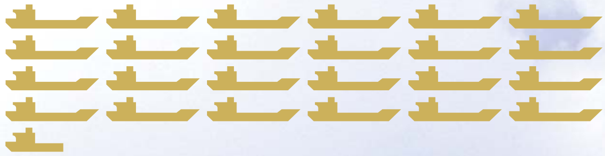
123,600 kl

(Calculated in volume of crude oil used)

0.5% increase from fiscal 2003

Energy consumed by DIC in fiscal 2004 would fill 24.7 5,000 kl tankers.

(0.1% increase from fiscal 2003)



= amount held by one 5,000 kl tanker

P13

Green Procurement Rate **93.5%**

0.7 percentage point increase from fiscal 2003

INPUT → DIC

P23

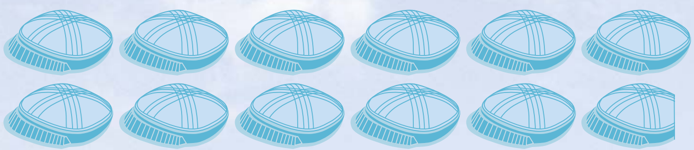
15.8% increase from fiscal 2003

14,611,000 m^3

City water 362,000 m^3

Industrial water 14,249,000 m^3

Total Water Consumption



Water consumed by DIC in fiscal 2004 would fill 11.8 domed stadiums the size of Tokyo Dome (1,240,000 m^3)

(The increase from fiscal 2003 would fill 1.6 domed stadiums the size of Tokyo Dome.)

= amount held by Tokyo Dome

※ Indicates relevant page of this report

PRODUCTION INPUT–OUTPUT FLOW FOR FISCAL 2004

Responsible Care

P23

CO_2 Emissions
(calculated in volume of carbon released)

77,000 tons
(including emissions from purchased electric power)

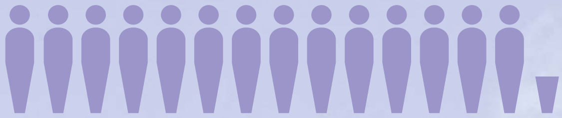
1.3% increase from fiscal 2003

In fiscal 2004, CO_2 emissions in Japan amounted to 2.7 tons per person.

Note: Calculated in volume of carbon released by DIC based on figures published by the Greenhouse Gas Inventory office of Japan.

CO_2 emissions by DIC in fiscal 2004 represented the emissions of 28,518 people.

(The increase from fiscal 2003 represented the emissions of 54 people.)



= amount used by 2,000 people

573 tons
Emissions of PRTR Chemicals Released into the Atmosphere
(includes emissions of certain chemicals for which monitoring is voluntary)
P9

37 tons
SO_X Emissions
P23

244 tons
NO_X Emissions
P23

OUTPUT

Non-Consolidated Net Sales **¥370.2**

473 tons
COD Emissions into Water
P23

11,809,000 m^3
Total Emissions of Waste Water
P23

P11

54% decrease from fiscal 2003

1,560 tons

Industrial Waste Disposed of as Landfill

Waste disposed of as landfill by DIC in fiscal 2004 would fill 390 four-ton trucks.

(The decrease from fiscal 2003 would fill approximately 466 trucks.)

= amount held by 100 four-ton trucks

601t

573t

-5%

In fiscal 2004, DIC's emissions of PRTR chemicals amounted to 573 tons,a decrease of approximately 5%, or 28 tons, from fiscal 2003.

Compliance with Standards Governing the Emission of Dioxins

As of fiscal 2004, DIC has two incinerators that qualify as "specified facilities" under Japan's Law Concerning Special Measures Against Dioxins. Both facilities comply with legal standards governing dioxin levels in exhaust gas and waste water.

Dioxin Emission Control Standards Applicable to Incinerators at DIC Plants

	Incinerator Capacity	Date of Establishment	Exhaust Gas	Waste Water
Chiba Plant	approx. 3t/h	Before 1997.11.31	5ng-TEQ/Nm^3	10pg-TEQ/L
Hokuriku Plant	approx. 0.3t/h	After 1997.12.1	5ng-TEQ/Nm^3	10pg-TEQ/L

Pollutant Release and Transfer Register (PRTR) Chemicals

In fiscal 2004, DIC's emissions into the environment of chemicals targeted by the Japan Chemical Industry Association's (JCIA's) PRTR scheme amounted to 573 tons, a decrease of approximately 5%, or 28 tons, from fiscal 2003.

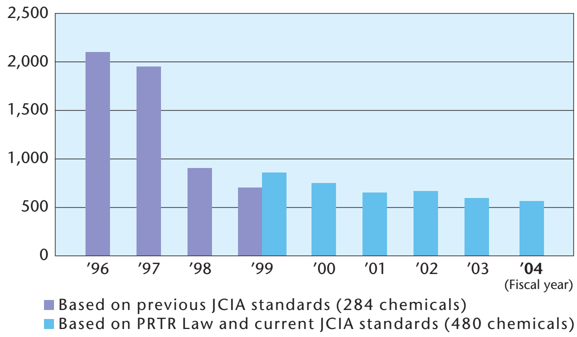
Until fiscal 1999, the JCIA's voluntary PRTR scheme targeted 284 chemicals. With the enactment of the PRTR Law, effective fiscal 2000, this number increased to 480. This total comprises 354 chemicals specified under the PRTR Law and 126 chemicals from the JCIA list not specified under the PRTR Law. In fiscal 2004, DIC used 122 of the 480 PRTR chemicals, a decrease of five from the previous period.

The top graph to the right shows DIC's emissions of all PRTR chemical substances since it began monitoring these emissions in 1996. The table below the graph indicates PRTR chemicals for which emissions by DIC in fiscal 2004 exceeded 10 tons.

Notes:

1. **PRTR**
   The PRTR is a scheme for assessing, aggregating and disseminating data on the sources of hazardous chemicals, amounts released to the environment and amounts transferred off-site from industrial establishments via waste products.
2. **PRTR Law**
   Popular name for the Law Concerning the Reporting, etc. of Release to the Environment of Specific Chemical Substances and Promoting Improvements in their Management. The law, which went into effect in 1999, required companies meeting certain standards to assess the release and transfer of PRTR chemicals from 2001 and report results to the government from 2002. DIC has assessed the release of PRTR chemicals and aggregated and disseminated data in accordance with the law retroactive to 1999.

Emissions of PRTR Chemical Substances

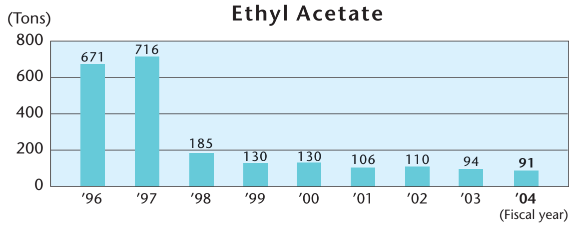


PRTR Chemicals with Emissions in Excess of 10 Tons in Fiscal 2004

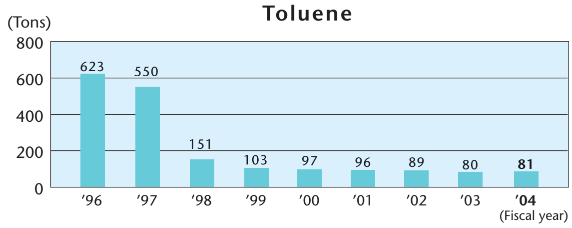
(Tons)

Chemical	Volume manufactured/used	Volume emitted
Ethyl acetate	14,942	91
Toluene	14,631	81
Methyl ethyl ketone	11,970	69
Xylene	8,396	65
Propyl alcohol	3,966	47
Methyl alcohol	29,197	42
N–Methylpyrrolidone	218	26
N,N–dimethylformamide	9,040	25
Styrene	142,923	20
Butyl alcohol	3,598	17
Ethylene glycol monomethy ether	170	16

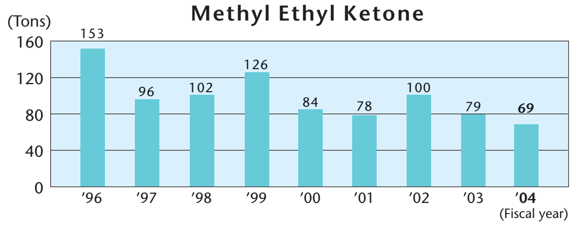
Ethyl Acetate



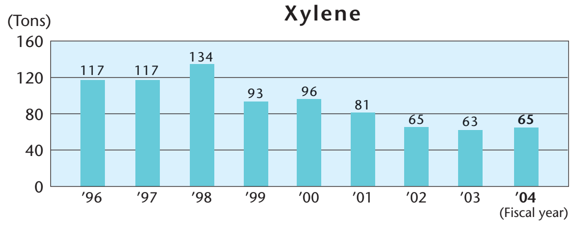
Toluene



Methyl Ethyl Ketone



Xylene



3,426t

1,560t

-54%

DIC achieved a 54% reduction in industrial waste disposed of as landfill in fiscal 2004, to 1,560 tons, from 3,426 tons in fiscal 2003.

Recycling Incinerator Cinders into Raw Materials

In December 2003, DIC's Chiba Plant installed automated facilities for removing nails and metal from cans and other containers from incinerator cinders, facilitating the use of these cinders to manufacture lightweight aggregate for structural applications and seal coats for pavement. As a consequence, in fiscal 2004 the plant saw a 70% improvement in the proportion of cinders it generates that is converted into usable raw materials. This in a 390-ton reduction in cinders disposed of as landfill. In fiscal 2005, DIC aims to achieve a 100% recycling rate for incinerator cinders.

Energy Consumption

In fiscal 2004, DIC recorded a 0.5% increase in its absolute energy consumption, calculated in volume of crude oil used, to 123,600 kl. The index of energy consumption per unit of production (fiscal 1990=100) was 88, up one percentage point, falling short of the Company's stated goal of reducing absolute energy consumption, calculated in volume or crude oil used, by at least 1.0% annually. These gains were attributable to changes in DIC's product mix that resulted in an increase in energy-conserving products. The top graph to the right shows DIC's absolute energy consumption and the consumption index from fiscal 1990 through fiscal 2004.

In fiscal 2005, DIC will continue to take steps to lower energy consumption Companywide, in line with its annual target of at least a 1.0% reduction, including testing the effectiveness of cogeneration systems installed at facilities and employing fuel cells and other new technologies.

Notes:
1. Energy consumption calculated in volume of crude oil used is the total volume of all types of energy used, including electric power and crude petroleum.
2. Energy consumption per unit of production is the volume of energy consumed per ton of production.
3. The energy consumption index compares the change in the rate of consumption per unit of production with fiscal 1990 as the base year. Japan's chemical industry has set a goal for this index of 90 by fiscal 2010.
4. Cogeneration systems enable the simultaneous production of several types of energy using one primary fuel. DIC's cogeneration systems use such fuels as natural gas and kerosene to produce electricity and the waste heat from fuel combustion to produce steam.

Industrial Waste

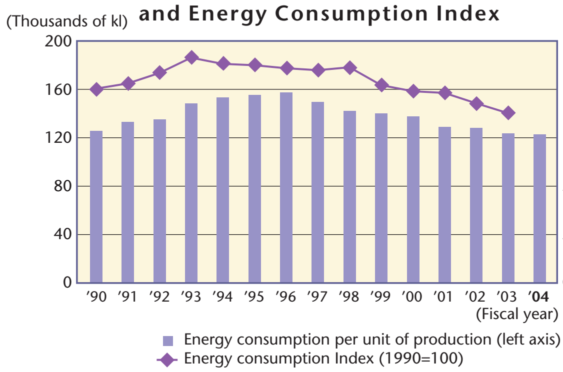
DIC achieved a 54% reduction in industrial waste disposed of as landfill in fiscal 2004, to 1,560 tons.

The second graph on the right illustrates the annual volume of industrial waste generated by DIC that has been disposed of in this manner since fiscal 1990. Principal reasons for the decline in fiscal 2004 include the recycling of incinerator cinders into usable raw materials (Chiba Plant), the conversion of organic sludge in wastewater into fertilizer (Hokuriku Plant) and the reduction of water content of sludge (Kashima Plant).

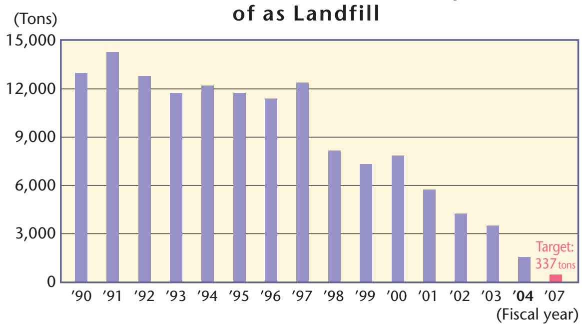
DIC has set a goal for industrial waste disposal of 5% of the fiscal 1999 level, or 370 tons, by fiscal 2007 and, since fiscal 2001, has implemented a variety of programs aimed at achieving this goal. The Company continues to reinforce efforts to achieve this goal.

Note: Industrial waste disposed of as landfill refers to the volume of industrial waste buried in landfill sites.

Energy Consumption per Unit of Production (Calculated in Volume of Crude Oil Used) and Energy Consumption Index



Volume of Industrial Waste Disposed of as Landfill



Recycling of Containers and Packaging

The Containers and Packaging Recycling Law, which went into effect in April 1997, obliges companies to which the law applies to recycle containers and packaging sold to consumers into commercial products. To facilitate a smooth process, the Japan Containers and Packaging Recycling Association was established as a government-designated organization providing services on a contract basis. DIC has contracted the association as part of its strategy to ensure the efficient recycling of containers and packaging. In fiscal 2004, the Company paid a total of approximately ¥1.3 million to the association for the recycling of containers and packaging used in its health foods and petrochemicals-related products businesses.

92.8% ▼ 93.5%

+0.7 point

In fiscal 2004, 93.5% of the raw materials procured by DIC were from suppliers that meet its Green Procurement standards.

DIC's Green Procurement Standards

Activities A supplier must either	**Materials Procured** A supplier must
• have earned ISO 14001 certification or have a management system in place and a definite schedule for applying for ISO 14001 certification, or • conduct its operations in accordance with the principal requirements for ISO 14001.	• supply materials that contain no prohibited substances, e.g., substances prohibited under the Industrial Health and Safety Law or Class 1 specified chemical substances prohibited under the Law Concerning the Evaluation of Chemical Substances and Regulation of their Manufacture, etc. (the Chemical Substance Control Law), and • recycle or take other steps to ensure the environmental soundness of containers and packaging materials or otherwise contribute to environmental preservation.

Note: Suppliers must meet standards in both columns to qualify.

Definition of Green Procurement Rate

$$\text{Green Procurement Rate} = \frac{\text{Total volume of raw materials procured from suppliers that meet DIC's Green Procurement standards}}{\text{Total volume of raw materials procured by DIC's Purchasing Department}} \times 100$$

Ozone-Depleting Substances

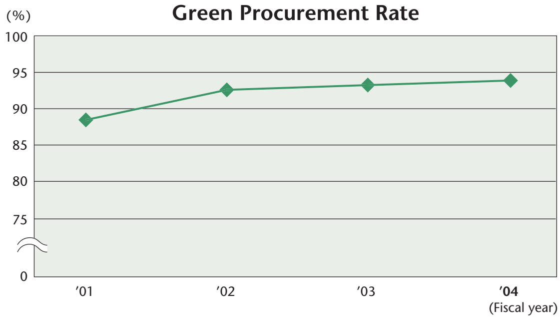
DIC previously used a designated ozone-depleting substance in some of its expandable urethane resins. By the end of May 2004, however, DIC switched to an alternative manufacturing system, called Hiflox, thereby enabling the Company to completely eliminate the use of ozone-depleting substances in its products.

Green Procurement

DIC established its own Green Procurement standards in fiscal 2001 and continues to encourage suppliers who do not meet these standards to implement changes.

In fiscal 2004, DIC achieved a Green Procurement rate of 93.5%, meaning that 93.5% of raw materials procured were from suppliers that meet its Green Procurement standards. This was up from 89.0% in fiscal 2001, 92.5% in fiscal 2002 and 92.8% in fiscal 2003. DIC intends to achieve a 100% Green Procurement rate by the end of fiscal 2005.

Green Procurement Rate



Fiscal year	2001	2002	2003	**2004**
Green Procurement (%)	89.0	92.5	92.8	**93.5**

Compliance with Customers' Green Procurement Standards

In addition to implementing strict criteria for regulating heavy metal compounds and other hazardous substances, DIC proactively discloses information on hazardous substances contained in its products to customers.

Manufacturers of electrical and electronic equipment are under increasing pressure to comply with such directives as RoHS and WEEE. RoHS bans the use of specified hazardous substances in, while WEEE applies to the treatment of waste equipment. Automobile manufacturers must comply with the ELV directive, which seeks to reduce hazardous materials removed from end-of-life vehicles and ensure proper scrapping procedures. As a consequence, manufacturers must establish stringent Green Procurement and ensure the compliance of raw materials and components suppliers.

As part of its efforts to comply with the demands of customers by disclosing information on hazardous substances contained in its products, DIC requests that its raw materials suppliers submit Material Assessment Sheets and tests the raw materials it purchases for the presence of heavy metals and impurities to fulfill other legal requirements.

Notes:

1. **RoHS (Restriction of Hazardous Substances) Directive**
   A European Union (EU) directive banning the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) in electrical and electronic equipment brought to market after July 1, 2006.
2. **WEEE (Waste Electrical and Electronic Equipment) Directive**
   An EU directive on the responsibilities of individual manufacturers to collect and recycle waste electrical and electronic equipment.
3. **ELV (End-of-Life Vehicles) Directive**
   An EU directive banning the use of lead, mercury, cadmium and hexavelent chromium in new vehicles after July 2003. (Certain exemptions have been made.)

Green Procurement of Office Supplies

Concurrent with its switch to an online purchasing system for office supplies, in fiscal 2003 DIC introduced a Green Procurement designation for office supplies and began promoting the use of products worthy of this designation*. In fiscal 2004, such products accounted for 18% of all office supplies purchased by the Company.

* Products that (a) have qualified as "green" under Japan's Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities, (b) bear Japan's Eco Mark (a designation assigned by the Japan Environment Association to products that contribute to environmental preservation) and/or (c) are included in the data book published by the Green Purchasing Network (GPN), an organization established in February 1996 to promote green purchasing among consumers, companies and governmental organizations in Japan.

Environment-Friendly Product Development

As a manufacturer of fine chemicals, DIC supplies its customers with more than 300,000 different products, including printing inks, as well as the principal raw materials used in these inks, namely, organic pigments and synthetic resins. These products are transformed by DIC's customers into a wide range of finished products that play key roles in our everyday lives.

DIC is actively committed to the development and launch of environment-friendly products, that is, products that respond to expectations regarding reduced impact on the environment, safety and health. Accordingly, on January 1, 2004, the Company implemented internal guidelines for assessing and designating environment-friendly products. In fiscal 2004, products qualifying as "environment-friendly" under DIC's new guidelines accounted for 29% of non-consolidated net sales.

Assessment and Designation of Environment-Friendly Products

DIC's guidelines for assessing and designating environment-friendly products encompass 16 criteria in four categories: energy consumption, raw materials used, risk and industrial waste generation. In principle, all DIC products, including those under development, are evaluated based on these 16 criteria in comparison with corresponding domestic market leaders. (Products for which there are no corresponding domestic market leaders will be evaluated in comparison with existing DIC products.)

DIC環境調和型製品

DIC products designated "environment-friendly" are eligible to use this proprietary mark on packaging labels and in catalogs, technical materials and product advertising.

Reducing the Environmental Impact of Printing Processes

New Web World ADVAN®

The ability to produce large volumes of high-quality documents has made offset printing the technique of choice for most printing jobs today. Heatset web offset process ink *Web World New ADVAN* is an officially approved, environment-friendly ink that lowers the environmental burden at all stages of printing.

Cleaning Presses and Changing Inks: Key Causes of Environmental Impact

With conventional offset printing, it is necessary to stop the press every 30–50 thousand sheets to clean the blankets (rubber rollers that transfer the ink to the print surface) with a petroleum-based solvent to preserve printing quality. Moreover, because quality offset inks are not suited to high-quality printing on post-consumer recycled paper, lightweight coated paper and rough paper, all of which are increasingly popular for offset printing, printers have to change back and forth to inks compatible with each of these types of paper. Both cleaning blankets and changing inks necessitate the use


Hideo Ishii
Developer of
Web World New ADVAN


Noriyuki Takahashi
Chief Researcher
(Developer of
Web World New ADVAN)


Kiyonobu Imai
Researcher
(Developer of
Web World New ADVAN)

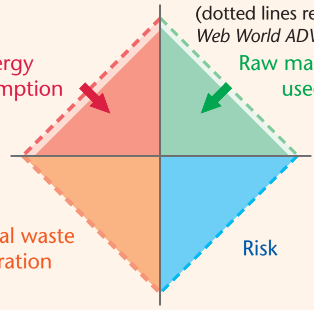
of petroleum-based solvents. Changing inks also results in ink loss, paper loss early in the printing process and other phenomena that exert a burden on the environment.

DIC's R&D staff have worked continuously to develop web offset inks that are less harmful to the environment by eliminating the causes of print quality deterioration, facilitate an increase in the number of sheets that can be printed consecutively and are compatible with a greater variety of paper types. In 2002, these efforts resulted in the commercialization of *Web World ADVAN*, which, according to comparative research conducted by DIC, halved unproductive time and reduced paper loss by 26%. This was followed by *Web World New ADVAN*, which reduced unproductive time and paper loss by 60% and 40%, respectively. *Web World New ADVAN* also satisfies key environmental standards, significantly improving the printing environment for workers and contributing to preservation of the natural environment.

Nobuo Masui
General Manager
(In charge of production of *Web World New ADVAN*)

Production of *Web World New ADVAN*

Comparison of *Web World ADVAN* and *Web World New ADVAN*



- Energy consumption: Reduces energy consumption by user
- Raw materials used: Reduces volume of raw materials/product used
- Risk: Similar to *Web World ADVAN*
- Industrial waste generation: Similar to *Web World ADVAN*

Newly Developed Varnish is the Key

Offset printing uses a fountain solution to wet the plate. Accordingly, the varnish used in offset inks plays a crucial role in print quality. Printing requires the dispersion of an appropriate amount of water into the ink. However, owing to the presence of hydrophilic elements, the ink has a tendency to take in too much water, resulting in excessive emulsification. This causes a number of problems, including ink build-up on the press, scumming on non-image areas of the plate and ink piling.

Capitalizing on DIC's integrated production capabilities, which enable it to produce everything from raw materials to finished inks, the Company's inks and resins departments collaborated to develop a new resin for *Web World New ADVAN*. This was facilitated by the development of DIC's exclusive "Web Cross Linking Structure" method, which reduces elution of the water-soluble elements in the ink and reduces the adhesion of ink spattered on non-image areas during printing.

Responding to a Variety of Printing Needs

The new technologies featured in *Web World New ADVAN* not only improve printing stability and increase the number of sheets that can be printed consecutively, but also enable its use with a wide variety of paper types and reduce the necessity for ink changes. Our ultimate goal is to develop an ink that enables a completely seamless printing process—with no stops from the moment the start button is pushed to completion—and delivers outstanding printing quality. Going forward, we will continue to work to develop products that satisfy our customers.

Notes:

1. Comparison of unproductive time and paper loss using leaflet printed on three types of paper (coated, rough and coated) using a B2-size offset press (single-cylinder, 800rpm) (print run: 100,000 copies)
2. *Web World New ADVAN* satisfies the following key environmental standards: The Japan Printing Ink Makers Association's Negative List (NL) standards (voluntary standards for inks used on food packaging)

   The Japan Environment Association's Eco Mark program Product category 102 (Printing Inks ver. 2); certificate number: 03102037

   The American Soybean Association's Soy Seal program

Plastics: From Petroleum to Biomass

PLAMATE®—A Modifying Agent for Polylactic Acid

Amidst growing concern about the impact of greenhouse gases, polylactic acid (PLA)—a bioplastic synthesized from materials derived entirely from plant matter—is attracting considerable attention. PLA is synthesized from the starch in corn, sweet potatoes and other renewable (plant matter-derived) resources. Unlike petroleum-based polymers, the only CO_2 found in PLA is that which is naturally absorbed from the atmosphere by the original plant. Accordingly, even if it is incinerated, PLA simply returns CO_2 to the atmosphere in a natural cycle. Moreover, PLA is biodegradable, meaning that when disposed of as landfill, it is decomposed completely by microbes into CO_2 and water. Such wholly recyclable materials are seen as increasingly essential to the preservation of our natural environment.

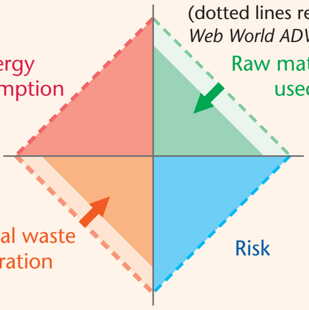
Excellent transparency has made PLA popular for packaging films, molded food trays and agricultural sheets. In recent years, applications have expanded to include, among others, PC casings and automobile components. With the aim of cultivating further applications, DIC developed *PLAMATE® PD-150*, a modifying agent that ensures PLA's transparency is not compromised.

PLAMATE® PD-150

Overcoming Obstacles

Thanks to its superb transparency, PLA is highly suited for use in films and sheets. Transformed into fibers, it can also be used in the manufacture of apparel. PLA can also be molded into various shapes. Accordingly, PLA offers outstanding potential as a new general-purpose plastic that can be used in place of petroleum-derived plastics. To date, however, several obstacles—notably excessive hardness and poor impact resistance—have prevented its broad application. With the development of *PLAMATE®*, DIC has resolved these problems. *PLAMATE®* preserves PLA's characteristic transparency while at the same time greatly improving its flexibility and impact resistance. Moreover, *PLAMATE®* does not significantly reduce PLA's plant matter content. DIC's achievement is thus expected to contribute to the expanded use of PLA in a wide range of fields.

Comparison of Petroleum-Based Polymers and PLA with *PLAMATE®*



- Energy consumption: Similar to conventional products
- Raw materials used: Reduces use of non-recyclable raw materials
- Risk: Similar to conventional products
- Industrial waste generation: Reduces environmental burden caused by disposal

Expanding Applications

At present, one A4-size piece of film can be produced with PLA made from the starch from seven kernels of corn. Going forward, if we can increase output and increase the biomass resource content of PLA, we can reduce the world's dependence on fossil fuels. We began conducting research into environment-friendly PLA—as a crucial mission for all chemical companies—somewhere around 1990. Our efforts to overcome PLA's biggest defect—poor impact resistance—led us to the development of *PLAMATE®*. *PLAMATE®* has since qualified for inclusion in the Positive List prepared by Japan's Biodegradable Plastics Society. We are excited about the role *PLAMATE®* will play in facilitating the broad application of PLA and are cooperating with various manufacturers and organizations to further enhance performance features, thereby promoting greater use.

Masao Kamikura
Chief Reseacher
(In charge of technological development for *PLAMATE®*)

Kazuo Saito
Section Chief
(In charge of market development for *PLAMATE®*)

BIO-TENDER® W50—A film derived from plant matter

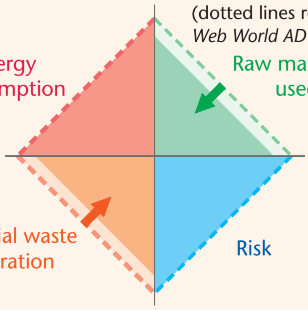
BIO-TENDER® W50 is a biodegradable pressure-sensitive adhesive film made from PLA, a bioplastic synthesized from materials derived entirely from plant matter. *BIO-TENDER® W50*'s applications vary extensively, from product labels for personal computers and household electrical appliances and labels for food containers to stickers used on transport advertisements and labels for cosmetics packaging. Pressure-sensitive adhesive films commonly comprise a print carrier, which is printed for use; an adhesive, which goes on the back of the print carrier; and a release liner, which is discarded when the film is used. *BIO-TENDER® W50* uses PLA for the print carrier acrylic pressure-sensitive adhesive and glassine paper for the release liner. By using PLA—a "carbon-neutral" material, meaning it does not increase the amount of CO_2 in the atmosphere—for the print carrier, DIC has succeeded in creating an environment-friendly product that is comparable to labels and stickers made from conventional, petroleum-based films in terms of performance. DIC is currently exploring potential new applications for this promising product.

Lavels made with *BIO-TENDER® W50*

Finding the Balance

The Kyoto Protocol, which entered into force in February 2005, and Expo 2005, held in Aichi, Japan, have stimulated considerable interest in PLA as a renewable biomass material. One obstacle to PLA's use in pressure-sensitive adhesive films, however, has been poor ink keying. DIC resolved this problem by coating the print carrier surface with an anchor coating agent. Unlike conventional anchor coating agents, which are non-biodegradable, that used on *BIO-TENDER® W50* is made from a biodegradable material different from PLA, thereby enhancing ink keying without compromising the biodegradability of the print carrier. The adhesive used on *BIO-TENDER® W50* is acrylic-based. While adhesives made from natural rubber do exist, such as the type commonly used on cellophane tapes, we chose to use an acrylic-based adhesive to prevent problems during printing—notably strings of sticky adhesive trailing out from behind labels—and automatic labeling processes. For the release film, which is discarded after the film is used, we chose glassine paper, for which a recycling system is already in place. These and other efforts to take into account the needs of users enabled us to create a highly practical and attractive product.

Comparison of Conventional Pressure-Sensitive Adhesive Films for Label Printing and *BIO-TENDER® W50*



- Energy consumption: Similar to conventional products
- Raw materials used: Uses raw materials that exert less of a burden on the environment
- Risk: Similar to conventional products
- Industrial waste generation: Reduces environmental burden caused by disposal

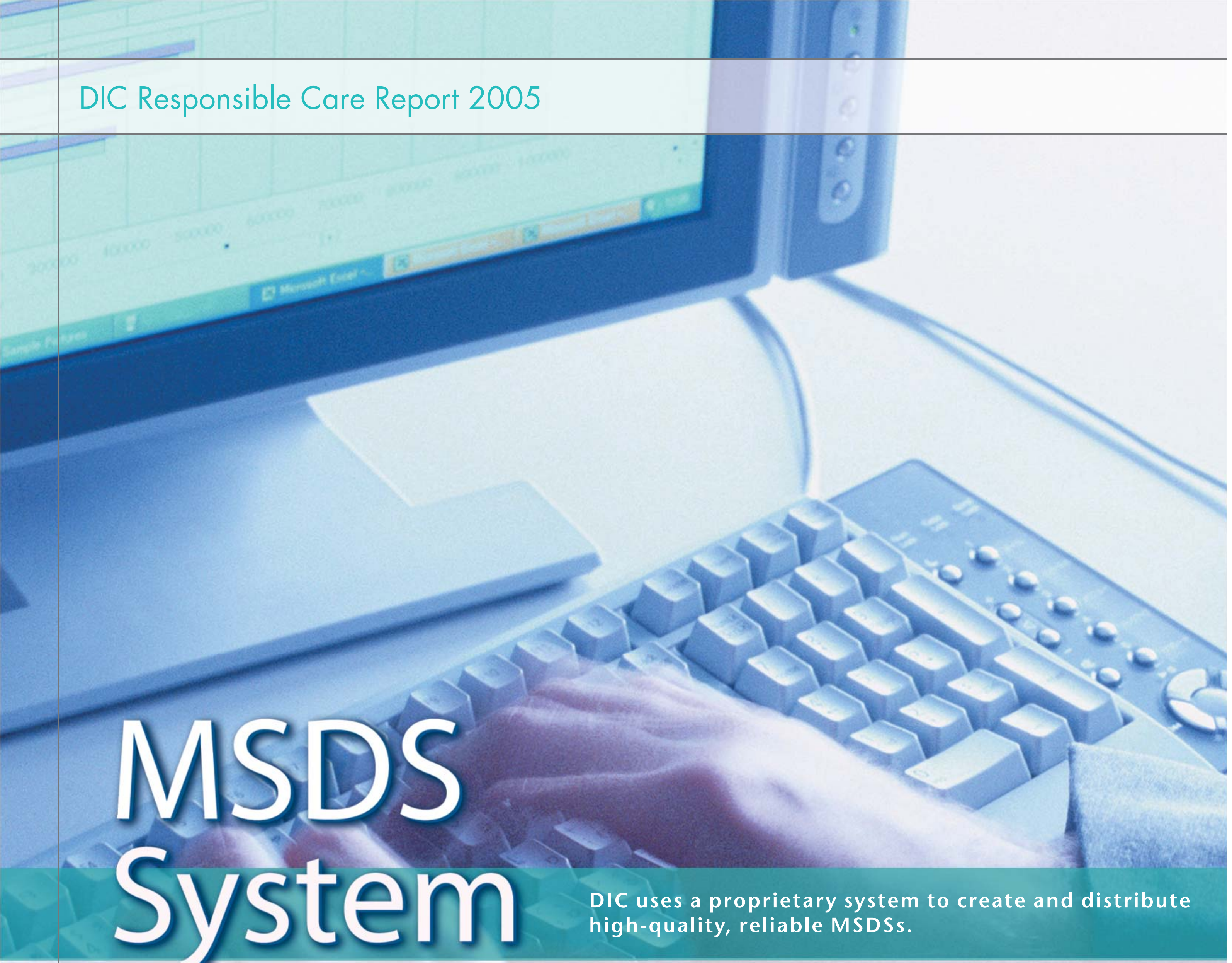
Coordinating Efforts

The development of *BIO-TENDER® W50* was a cooperative effort involving companies in a variety of industries. Participants included film producers; manufacturers of film coatings, which are applied using a gravure process; and manufacturers of printing presses. DIC served as the coordinator between these various companies by assessing materials developed by each and providing feedback. *BIO-TENDER® W50* has qualified for inclusion in the Positive List prepared by Japan's Biodegradable Plastics Society. With large-scale composting facilities expected to go into action in the future, polymers synthesized from materials derived from plant matter are set to replace conventional petroleum-based polymers.

Note: Glassine paper is a paper manufactured principally from chemical wood pulps that have been highly refined and supercalendered to create a smooth, high-density finish. Silicone-coated glassine paper is a popular choice for release liners of pressure-sensitive adhesive films.

Yasuichiro Shiraki
Chief Reseacher
(Developer of *BIO-TENDER®*)

Testing for printability



MSDS System

DIC uses a proprietary system to create and distribute high-quality, reliable MSDSs.

DIC prepares and distributes material safety data sheets (MSDSs) for all chemical substances it sells in the Japanese market—not only those for which it is obligated to by law—that comply with Japan Industrial Standards (JIS).

To ensure its products are not a cause of environmental pollution, DIC also includes information on appropriate measures for disposal in its MSDSs.

DIC has created its own automated MSDS creation and distribution systems. MSDSs that have been prepared manually are reproduced using this system to ensure all legal requirements have been satisfied and reduce the margin for human error, thereby ensuring a uniform level of quality and reliability for all DIC MSDSs. Domestic customers have the option of distribution by mail or the Internet. Customers requesting online distribution can view and download DIC's MSDSs at any time from the DIC web site. DIC also provides cumulative, itemized data on shipments to customers of PRTR chemicals.

For products sold in overseas markets, DIC introduced software that incorporates European Union (EU) MSDS requirements into its own MSDS standards, thereby ensuring exhaustive disclosure. For customers overseas, DIC prepares MSDSs that comply with EU guidelines in multiple European languages.

DIC also provides hazard data and safety control information in response to requests for assistance from customers.

Note: An MSDS contains information on the properties of and proper handing procedures for a particular chemical substance. Chemical manufacturers in Japan are required to provide MSDSs to customers in advance for products containing substances specified by the Labor Safety Hygiene Law, Poisonous and Deleterious Substances Control Law and Law Concerning Reporting, etc. of Release to the Environment of Specific Chemical Substances and Promoting Improvements in their Management.

ESH in R&D Activities

In line with its commitment to sustainable development, the DIC Group places a high priority on the development of environment-friendly technologies and products. Development activities are spearheaded by the Group's global network of R&D centers, which encompasses facilities in Japan, the United States, Europe and the People's Republic of China (PRC).

In Japan, independent technical departments in each DIC division conduct advanced, specialized research oriented toward current market requirements. These departments are supported by the Graphic Arts Laboratory, Tokyo, which focuses on graphic arts materials businesses, and two polymer and related products R&D centers, at the Chiba and Sakai plants, which concentrate on industrial materials businesses. The Central Research Laboratories, in Sakura, function independently and encompass the Corporate R&D Department as well as the Analytical Center.

Overseas, the Group has six principal R&D centers. Sun Chemical operates four R&D centers, two in the United States and one each in Germany and the United Kingdom. The remaining two facilities, the DIC Berlin GmbH R&D Laboratory, in Germany, and Qingdao DIC Finechemicals Co., Ltd., in the PRC, are independent facilities.

Members of the DIC Group's international R&D network cooperate to develop distinctive, environment-friendly technologies and products that meet the increasingly sophisticated needs of customers in core business areas, namely printing inks, organic pigments and synthetic resins, as well as in such high-growth areas as electronics and information materials.

In determining development themes, DIC promotes efforts to reduce the volume of hazardous chemical substances used and to develop less hazardous alternatives and safer production processes that generate less waste, as well as conducts environmental assessments. DIC also keeps abreast of legal developments in other countries to facilitate the modification of products bound for overseas markets to comply with local requirements.

Employees engaged in R&D adhere to the guidelines pertaining to general and workplace safety education set forth in DIC's *Environment and Safety Guidelines for the R&D Department*.

Internal Assessment

DIC conducts internal assessments of chemical substances and production processes prior to the introduction of new substances or new equipment at any of its plants. The Company also promotes education regarding the appropriate use of chemical substances and equipment.

When formulating capital investment plans or upgrading equipment, DIC conducts advance internal assessments aimed at ensuring the safety and reliability of equipment and reducing the margin for human error.

With the aim of ensuring the integrity of existing equipment, DIC has adopted a process safety management program that enables it to identify and assess risk. To reinforce chemical substance-related risk management, DIC conducts hazard assessments and formulates procedures for handling substances judged to be highly hazardous.

Employee Education

DIC holds presentations and regular seminars pertaining to the management of chemical substances for its employees in Japan and around the world with the aim of increasing understanding of laws and regulations. In fiscal 2004, DIC invited an expert from a U.S. affiliate to give a presentation on the U.S. Toxic Substances Control Act (TSCA) to employees in Japan. Texts used in seminars are posted on the DIC intranet for employees to view and/or download, further reinforcing employees awareness.

ESH in Product Distribution

DIC provides yellow cards to drivers of container trucks, tanker trucks and other dedicated hazardous chemical transport vehicles, as well as to drivers of ordinary delivery vehicles carrying mixed loads, to ensure prompt responses in the event of an emergency. The Company exclusively uses containers and tanks that comply with Japan's Fire Defense Law standards, United Nations' standards and other legal requirements.

DIC is currently expanding use of Japan Rail containers, trailers, ocean shipping and other large-lot distribution modes with the aim of reducing related energy consumption and CO_2 emissions. Modal shifts in fiscal 2004 contributed to a 661-ton reduction in CO_2 emissions.

Notes:

1. **Yellow Cards**
   Promoted by the JCIA, the yellow card system is a voluntary system of cards containing safety and emergency response information on chemical substances, which are provided by manufacturers to transport firms handling chemical substances.
2. **Modal Shift**
   A shift to large-lot transport modes, including ocean shipping and rail, which offer higher energy efficiency per load.

Evironment Safety Health

DIC Group companies overseas are also actively engaged in ESH.

Gathering Information on Overseas Laws and Regulations

DIC participated in the 2004 Global Chemical Regulations Conference, sponsored by the Synthetic Organic Chemical Manufacturers Association, with the aim of facilitating the exchange of opinions and information with individuals in charge of chemical substance management at participating U.S. firms, as well as with representatives of the U.S. Environmental Protection Agency (EPA). Information thus gained was communicated to employees with the aim of accelerating efforts to understand and respond to overseas laws and regulations.

DIC also took part in a workshop on the PRC's new regulations for managing chemical substances in Beijing, the main host of which was the Director General of China's State Environmental Protection Administration (SEPA), enabling it to obtain crucial information on the new regulations and to exchange opinions with individuals from SEPA currently in charge of implementing the new regulations. Presentations were subsequently held to communicate this information to employees.

ESH at Overseas DIC Group Companies

As of March 31, 2005, the DIC Group included 211 overseas subsidiaries in 59 countries. Core subsidiary Sun Chemical Corp., which heads its own extensive group of companies, is actively engaged in ESH through Responsible Care activities, while other subsidiaries are pursuing a variety of independent programs.

DIC has introduced the same workplace accident report forms—translated into local languages or English—to Group companies in Southeast Asia and the PRC as it uses in Japan and established communications procedures to facilitate the effective sharing of environment- and safety-related information.

DIC has also produced English- and Chinese-language versions of *Principles of Safe Conduct: Procedures and Attitudes for a Safe Workplace*, which is used by Group companies in Japan.

With the aim of supporting efforts to ensure ESH for DIC Group employees everywhere, the DIC Group's R&D facilities around the world ensure companies are provided with data on chemical substances that facilitate safe handling.

● Enhancing Responsible Care Programs in the PRC

DIC is taking steps to enhance the ESH management systems of DIC Group manufacturing subsidiaries in the PRC. In fiscal 2004, DIC prepared a safety handbook for relevant companies in the PRC. This handbook was subsequently distributed to employees and training was introduced to ensure adequate understanding of the content. A Japanese translation of the handbook was also prepared for employees from Japan on assignment in the PRC.

Individuals in charge of ESH at Group companies in the PRC are currently preparing to hold meetings to discuss revisions to pertinent laws and regulations, present examples of activities from their particular company and exchange information on safety procedures and employee training. Efforts are also underway to reinforce other aspects of the Responsible Care programs of Group companies in the PRC.

● Enhancing Responsible Care Programs Elsewhere in Asia

DIC has taken steps to enhance the ESH management systems of DIC Group companies in Southeast Asia. Going forward, the Group will expand its focus to include other countries in Asia. Efforts are also underway to reinforce other aspects of the Responsible Care programs of Group companies elsewhere in Asia.

ESH in International Transactions

In addition to adhering to the rules outlined in its *Safety Management for International Trade Regulations and Implementation Manual*, DIC has prepared a checklist for employees traveling overseas on business to prevent the illegal export of products, regulated substances and technologies. DIC also keeps abreast of information on trafficking in prohibited substances and has established an internal mechanism to ensure adherence with international regulations.

For products exported from Japan for sale in overseas markets, DIC prepares and distributes MSDSs in local languages or English (see page 18). DIC has also begun using product labels that comply with laws and regulations in receiving countries, replacing labels on products bound for the EU, Republic of Korea (ROK) and Malaysia with labels that comply with labeling laws in these countries.

Label for the EU


Label for the ROK


Label for Malaysia

DIC's Global Network

(As of March 31, 2005)

Emissions of CO_2, SO_x, NO_x and COD

Graph 1 indicates DIC's emissions of CO_2 from fiscal 1990 through fiscal 2004 (fiscal 1990=100), calculated in volume of carbon released, and indexes energy consumption per unit of production (fiscal 1990=100). The absolute volume of emissions of CO_2 in fiscal 2004 increased 1,400 tons from the previous period. The index rose to 86, from 84.

CO_2 emitted through the combustion of energy during production accounts for the bulk of DIC's CO_2 emissions. Accordingly, the Company's targets for reducing CO_2 emissions are tied to its targets for lowering energy used for production. In fiscal 2004, DIC failed to meet its CO_2 emission index target of 83. The Company's target for fiscal 2005 is 82.

Graphs 2, 3 and 4 show sulfur oxide (SO_x) and nitrogen oxide (NO_x) emissions and chemical oxygen demand (COD) emissions in waste water from fiscal 1990 through fiscal 2004, respectively. SO_x and NO_x emissions increased during this period, owing primarily to a change in the fuel mix, a consequence of the installation of cogeneration systems. Nonetheless, emissions of both substances remain stable and well below legislated levels and levels agreed upon with municipal authorities.

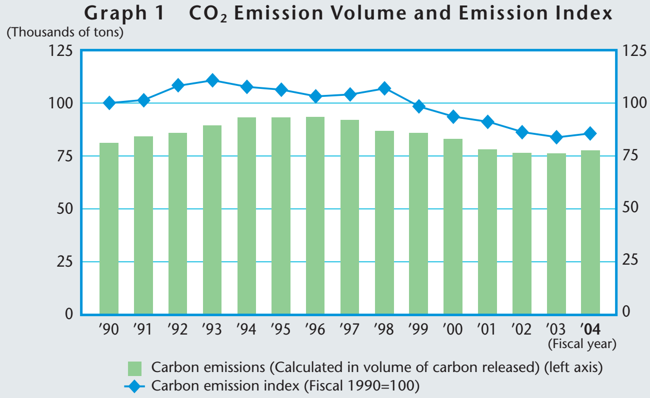
Soil and Groundwater Analysis at Plant Sites

DIC conducts soil analysis at all former plant sites and, if requested by local authorities, measures groundwater contamination. The Company conducted extensive analysis at the sites of its former Warabi, Amagasaki and Nagoya plants and, where indicated, promptly implemented soil remediation or other necessary measures. These three sites have since been redeveloped as a shopping center parking lot and other facilities used by the public.

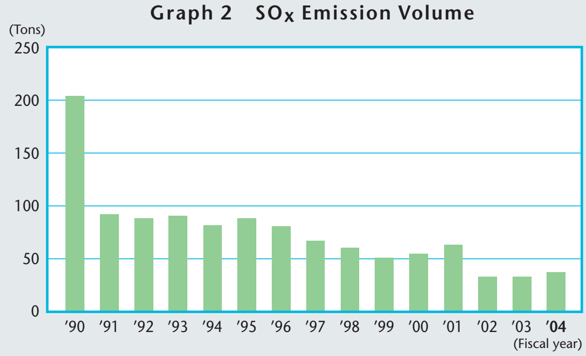
Until 1969, DIC manufactured chlorinated agricultural chemicals at its Chiba Plant. While remediation of soil and vegetation prevented contamination in the vicinity of the production site, DIC took vigorous steps, in line with Japanese law, to prevent the transmission of residue.

When acquiring plans or plant sites overseas, DIC compares Japanese law with that of the country in which the plant or site is located and conducts soil analysis in line with the more stringent of the two. While the types of analysis required vary under different laws, DIC will continue to weigh the standards of other countries against Japanese standards and apply the most rigorous standard for each type of analysis it conducts.

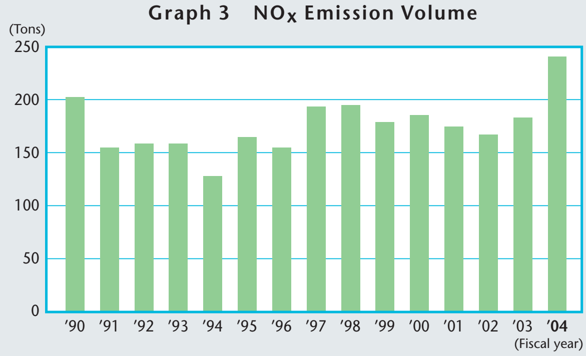
Graph 1 CO_2 Emission Volume and Emission Index



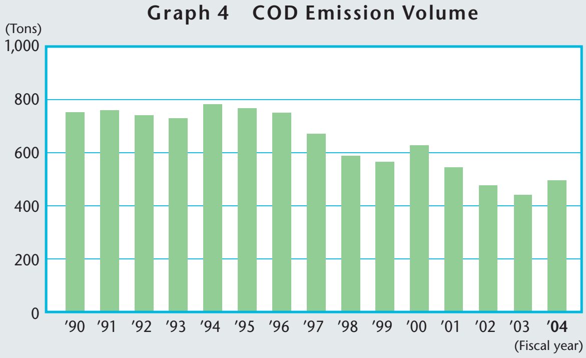
Graph 2 SO_x Emission Volume



Graph 3 NO_x Emission Volume



Graph 4 COD Emission Volume



Key Environmental Indicators

Table 1 Emissions of PRTR Chemicals (See page 9)

Fiscal year	1996	1997	1998	1999	2000	2001	2002	2003	**2004**
Based on previous JCIA standards (284 chemicals) (tons)	2,095	1,948	895	696	—	—	—	—	**—**
Based on PRTR Law and current JCIA standards (480 chemicals) (tons)	—	—	—	856	749	652	660	601	**533**

Note: In fiscal 1996, the number of PRTR chemicals was 284. This was increased to 480 in fiscal 1999.

Table 2 Energy Consumption (See page 11)

Fiscal year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	**2004**
Energy consumption (calculated in volume of crude oil used) (1,000 kl)	127	132	136	148	154	155	157	151	142	139	138	129	127	123	**124**
Energy consumption per unit of production (liters/ton)	138	142	150	160	157	156	153	151	154	141	136	133	128	120	**122**
Energy consumption index	100	103	109	116	114	113	111	110	112	103	99	97	93	87	**88**

Note: Energy consumption per unit of production is the volume of energy consumed per ton of production, calculated in volume of crude oil used. The energy consumption index compares the change in consumption per unit of production with fiscal 1990 as the base year. The JCIA has set a target for the reduction of energy consumption per unit of production for its member companies of 90% of the fiscal 1990 level by fiscal 2010. For DIC, this would be 124 liters/ton.

Table 3 Volume of Industrial Waste Disposed of as Landfill (See page 11)

Fiscal year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	**2004**
Volume disposed of as landfill (tons)	12,948	14,345	12,764	11,870	12,157	11,882	11,508	12,247	8,069	7,552	7,981	5,582	4,190	3,426	**1,546**
Zero emission index	—	—	—	—	—	—	—	—	—	100	106	74	55	45	**20**

Note: Industrial waste disposed of as landfill refers to the volume of industrial waste buried in landfill sites after reduction (through dessication or incineration) or directly. DIC has set a goal for industrial waste disposal of 337 tons by fiscal 2007. The zero emission index compares changes in the volume of industrial waste disposed of as landfill with fiscal 1999 as the base year. DIC's zero emission index goal is a maximum of 5%.

Table 4 CO_2 Emissions (See page 22)

Fiscal year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	**2004**
CO_2 emissions (calculated in volume of carbon released) (1,000 tons)	81	84	86	89	93	93	93	92	87	86	83	78	76	76	**77**
CO_2 emissions per unit of production (kg/ton)	88	90	96	97	94	94	90	92	94	87	82	80	76	74	**76**
CO_2 emission index	100	102	108	110	107	106	103	104	107	98	93	91	86	84	**86**

Note: CO_2 emissions per unit of production is the volume of CO_2 emitted per ton of production, calculated in volume of carbon released. The CO_2 emission index compares the change in emissions per unit of production with fiscal 1990 as the base year.

Table 5 SO_X Emissions (See page 22)

Fiscal year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	**2004**
SO_X emissions (tons)	204	92	88	90	82	88	81	67	60	51	55	63	33	33	**37**
SO_X emissions per unit of production (g/ton)	221	99	97	98	84	89	79	67	65	52	54	65	33	32	**37**
SO_X emission index	100	45	44	44	38	40	36	30	30	23	24	30	15	15	**17**

Note: SO_X emissions per unit of production is the volume of SO_X emitted per ton of production. The SO_X emission index compares the change in emissions per unit of production with fiscal 1990 as the base year.

Table 6 NO_X Emissions (See page 22)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	**2004**
NO_X emissions (tons)	202	154	158	157	127	164	154	193	194	179	185	174	166	182	**244**
NO_X emissions per unit of production (g/ton)	219	166	175	171	130	165	150	193	210	181	182	180	166	177	**240**
NO_X emission index	100	76	80	78	59	75	68	88	96	83	83	82	76	81	**109**

Note: NO_X emissions per unit of production is the volume of NO_X emitted per ton of production. The NO_X emission index compares the change in emissions per unit of production with fiscal 1990 as the base year.

Table 7 Water Consumption and Waste Water Emissions

Fiscal year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	**2004**
Water consumption (city water) (1,000 m^3)	546	542	558	581	568	546	520	562	536	500	482	386	339	340	**362**
Water consumption (industrial water, others) (1,000 m^3)	19,769	19,603	20,205	19,569	18,945	18,585	17,917	17,647	16,766	16,708	17,178	14,918	13,588	12,269	**14,244**
Waste water emissions (1,000 m^3)	14,431	14,310	14,750	14,827	14,523	14,830	14,367	14,294	13,124	13,172	13,771	11,813	10,985	10,901	**11,801**

Table 8 COD Emissions in Waste Water (See page 22)

Fiscal year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	**2004**
COD emissions (tons)	745	753	740	730	792	775	745	677	594	571	615	545	474	441	**473**
COD emissions per unit of production (g/ton)	809	810	818	793	807	780	723	676	642	579	606	563	475	430	**465**
COD emission index	100	100	101	98	100	96	89	84	79	72	75	70	59	53	**57**

Note: COD emissions per unit of production is the volume of COD emitted per ton of production. The COD emission index compares the change in emissions per unit of production with fiscal 1990 as the base year. Calculations for sites having no COD emissions data are based on biological oxygen demand (BOD) emissions.

Safety and Health Record

During fiscal 2004, one occupational accident with lost work days was reported at a DIC plant. The accident involved an employee accidentally hitting his/her finger with a hammer. The occupational accident frequency rate for the period was 0.14 and the occupational accident severity rate was 0.001, compared with 0.4 and 0.012, respectively, in fiscal 2003.

The graphs on the right show DIC's occupational accident frequency and severity rates from fiscal 1970 through fiscal 2004.

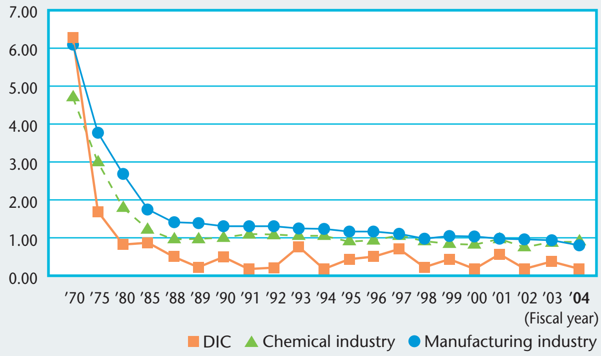
Notes:

1. **Occupational Accidents with Lost Work Days**
   Occupational accidents are accidents resulting in days away from work.
2. **Occupational Accident Frequency Rate**
   The occupational accident frequency rate is the number of injuries and deaths due to occupational accidents per one million hours of labor. (Calculation: Number of injuries and deaths ÷ Total work hours × 1,000,000). An occupational accident frequency rate of 1.0, for example, corresponds to one accident per year in a workplace with 500 employees.
3. **Occupational Accident Severity Rate**
   The occupational accident severity rate is the number of work hours lost per 1,000 hours of labor. (Calculation: Number of days lost ÷ Total work hours × 1,000). An occupational accident severity rate of 0.1, for example, corresponds to 100 work hours lost per year in a workplace with 500 employees.

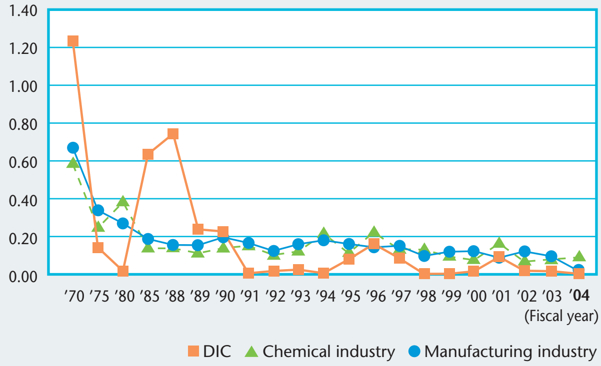
DIC was honored to receive an award during fiscal 2004 in recognition of its superb safety record and accumulated experience in ensuring employee safety.

Tokyo Plant: Incentive Prize (Safety) (Minister of Health, Labour and Welfare)

Occupational Accident Frequency Rate



Occupational Accident Severity Rate



Notes:

1. "Chemical Industry" and "Manufacturing Industry" include all companies in the chemical industry and manufacturing industry, respectively, as defined by the Ministry of Health, Labour and Welfare for the purposes of its Occupational Safety and Health Statistics.
2. Figures for DIC are for the fiscal year (April 1–March 31). Figures for the chemical industry and the manufacturing industry are for the calendar year.

"Safety Tree" Rings

DIC has established the "Safety Tree" as a way to recognize the achievements of its plants and R&D facilities in eliminating occupational accidents.

Each year, DIC presents plants and R&D facilities that achieve consecutive occupational accident-free years, that is, years free from accidents resulting in days away from work, with a ring for their "safety tree." One tree comprises 20 rings. When a tree is completed, the process begins again from the top as each silver ring is replaced with a golden one for each consecutive occupational accident-free year.

As of the end of fiscal 2004, three DIC plants had achieved more than 20 consecutive occupational accident-free years: the Fukuoka Plant (35 years), the Hokuriku Plant (31 years) and the Ishikari Plant (23 years). These achievements do not reflect any extraordinary efforts. Rather, they are the result of the consistent, honest application of near-miss incident sampling, hazard prediction and improvement proposal activities by plant employees. Other DIC plants are modeling their efforts to achieve consecutive occupational accident-free years after the examples set by these three plants.

Safety tree

History of DIC's Environment and Safety Program

(Fiscal year)

1973	Environment and Safety Response Department established under direct supervision of DIC's president
	Internal safety audit conducted
1974	Environment and Safety Management Regulations and Working Regulations for Interim Countermeasures Department established
	Inspection of environment and safety precautions at major plants undertaken
1977	Large-scale waste incinerator installed at Chiba Plant
1979	Procedures for Using New Chemicals established
	Questionnaire on Characteristics of Chemicals established
1982	Guidelines for Training Inexperienced Workers (New Employees) established
1983	Professional sanitary guidance qualifications made mandatory for all management-level personnel
1984	Inspection of environment and safety precautions at branch offices, subbranches and sales offices launched
1985	*5S Procedures and Attitudes for a Safe Workplace and Examples of Emergency Situations* published
	Campaign to reinforce *5S Procedures and Attitudes for a Safe Workplace* launched following several accidents
	Guidelines for Implementing Management Directives on Key Environment and Safety Issues published
1987	Campaign to identify potential accidents launched
1988	*Environment and Safety Guidelines for the R&D Department* published
1990	*Environment and Safety Management Regulations* revised to include section on global environmental preservation
1992	Environment and Safety Philosophy formulated
	Accident-free year achieved for entire Company
	Guidelines for Preparing MSDSs established
1993	Voluntary Long-Term Environment and Safety Plan formulated
	Guidelines for Preventing Accidents Caused by Static established
	Chemical substance safety information officer appointed in each division
	Various commemorative events held to mark 20th year of DIC's environment and safety program
1995	Public pledge to uphold principles of Responsible Care announced by DIC in its role as a founding member of Japan's Responsible Care movement
	Guidelines for Crisis Management in the Event of an Accident established
	Procedures and route for reporting and communicating instructions in the event of an accident established for domestic and overseas affiliates
	The Aftermath of the Great Hanshin–Awaji Earthquake published, chronicling conditions following the disaster
	Responsible Care audit system established
1996	Guidelines for Selling Chemical Products established
	Safety and Quality Control Supervisor appointed at sales office
	First Responsible Care annual report (1996) published
	ISO 14001 certification obtained by Kashima Plant from Japan Quality Assurance Association
1997	Sakai, Amagasaki, Mikawa (currently Hokuriku), Chiba, Tokyo, Saitama, Yokkaichi, Gunma and Komaki plants obtain ISO 14001 certification
1998	*PSM Guidelines* are published
	Suita, Warabi and Nagoya plants obtain ISO 14001 certification
1999	PRTR chemical emission levels announced
2000	Registration and monitoring of chemical emissions modified in compliance with new PRTR system; environment-related costs and investments published in line with Environment Agency standards for environmental accounting
2001	Emission volumes for "priority" PRTR chemicals, i.e., those for which emissions exceed 10 tons, published
	Green Procurement activities commenced
2002	Energy consumption and CO_2 emission volume published
	Tatebayashi Plant obtains ISO 14001 certification
	Shiga Plant expands ISO 14001 certification to encompass entire plant
	Automated MSDS production system launched
2003	Internal guidelines for assessing and designating environment-friendly products established
	Data on emissions of CO_2 and other chemical substances exerting a burden on the environment published
2004	Internet-based MSDS distribution launched, enabling customers to download MSDSs from DIC's web site

Environment and Safety Awards Received by DIC

(Fiscal year)

1973	Amagasaki Plant	Effort Prize (Minister of Labour)
1974	Warabi Plant	Effort Prize (Minister of Labour)
1976	Warabi Plant	First Prize (Hygiene) (Minister of Labour)
1978	Mikawa Plant	Progress Prize (Minister of Labour)
1979	Sakai Plant	Progress Prize (Minister of Labour)
	Hokkaido Plant	Effort Prize (Minister of Labour)
1981	Mikawa Plant	Effort Prize (Minister of Labour)
1982	Tokyo Plant	Effort Prize (Minister of Labour)
	Mikawa Plant	First Prize (Safety) (Minister of Labour)
1984	Sakai Plant	Effort Prize (Minister of Labour)
	Tokyo Plant	First Prize (Hygiene) (Minister of Labour)
1986	Hokkaido Plant	First Prize (Hygiene) (Minister of Labour)
1987	Mikawa Plant	First Prize (Hygiene) (Minister of Labour)
1989	Sakai Plant	First Prize (Hygiene) (Minister of Labour)
1991	Amagasaki Plant	First Prize (Hygiene) (Minister of Labour)
1992	Sakai Plant	Progress Prize (Minister of Labour)
	Chiba Plant	Effort Prize (Minister of Labour)
	Sakai Plant	Top Hazardous Substance Operation Commendation (Commissioner, Fire Defense Agency)
1993	Chiba Plant	Top Plant for High-Pressure Gas Safety Commendation (Minister of International Trade and Industry)
	Mikawa Plant	Top Hazardous Substance Operation Commendation (Commissioner, Fire Defense Agency)
		Safety Effort Award (JCIA)
1994	Suita Plant	Effort Prize (Minister of Labour)
	Chiba Plant	Top Hazardous Substance Operation Commendation (Commissioner, Fire Defense Agency)
1994	Sakai Plant	First Prize (Safety) (Minister of Labour)
	Warabi Plant	Top Hazardous Substance Operation Commendation (Commissioner, Fire Defense Agency)
1996	Saitama Plant	Progress Prize (Minister of Labor)
	Nagoya Plant	Effort Prize (Minister of Labor)
	Amagasaki Plant	Top Hazardous Substance Operation Commendation (Commissioner, Fire Defense Agency)
	Nagoya Plant	Top Hazardous Substance Operation Commendation (Commissioner, Fire Defense Agency)
1997	Fukuoka Plant	Special Commendation (JCIA)
	Mikawa Plant	Top Plant for High-Pressure Gas Safety Commendation (Minister of International Trade and Industry)
	Tokyo Plant	Top Hazardous Substance Operation Commendation (Commissioner, Fire Defense Agency)
1998	Tokyo Plant	Safety Award (JCIA)
	Fukuoka Plant	Top Hazardous Substance Operation Commendation (Commissioner, Fire Defense Agency)
	Ishikari Plant	Top Hazardous Substance Operation Commendation (Commissioner, Fire Defense Agency)
1999	Suita Plant	Top Hazardous Substance Operation Commendation (Commissioner, Fire Defense Agency)
	Kansai Polymer Sakai Plant	Safety Effort Award (JCIA)
	Nagoya Plant	Progress Prize (Minister of Labor)
2000	Mikawa Plant	Safety Award (JCIA)
	Mikawa Plant	First Prize (Safety) (Minister of Health, Labour and Welfare)
2001	DIC	Chairman's Award (Japan Industrial Safety and Health Association)
	Saitama Plant	Top Hazardous Substance Operation Commendation (Commissioner, Fire Defense Agency)
	Saitama Plant	First Prize (Minister of Health, Labour and Welfare)
2002	Tokyo Plant	Top Hazardous Substance Operation Commendation (Commissioner, Fire Defense Agency)
	Suita Plant	First Prize (Occupational Health) (Minister of Health, Labour and Welfare)
	Saitama Plant	Chairman's Award (Reduce, Reuse and Recycle Promotion Committee)
2003	Kashima Plant	Top Hazardous Substance Operation Commendation (Commissioner, Fire Defense Agency)
	Kashima Plant	Incentive Prize (Occupational Safety) (Minister of Health, Labour and Welfare)
	Yokkaichi Plant	Chairman's Award (Reduce, Reuse and Recycle Promotion Committee)
2004	Tokyo Plant	Incentive Prize (Safety)
	Fukuoka Plant	Chairman's Award (Reduce, Reuse and Recycle Promotion Committee)

ENVIRONMENTAL ACCOUNTING

ESH Costs

Prior to fiscal 1998, DIC disclosed environmental and safety- and health-related costs (expenses and investments) based on internal standards. Since then, however, the Company has disclosed environmental costs prepared in line with the *Preparation for Establishment of an Environmental Accounting System* (2000 Report), published by Japan's Ministry of the Environment, while it continues to calculate safety- and health-related costs using internal standards.

1. Fiscal 2004 Environmental Costs

Environmental costs in fiscal 2004 comprised investments of ¥865 million and expenses of ¥10,729 million. These costs are broken down in the graph to the right and tables 1 through 4.

Breakdown of Fiscal 2004 Environmental Expenses
(¥10,729 million)

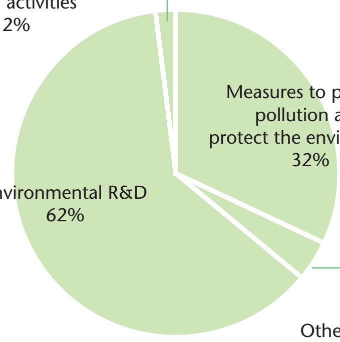


Table 1 Environmental Costs (Investments and Expenses)

Millions of yen

Category		Scope	Investments	Expenses	% of Total
1. Costs incurred through activities aimed at minimizing environmental load generated within the business area through production and sales activities (costs within the business area)		Costs related to the preservation of air and water quality, maintenance or improvement of waste disposal and recycling activities	190	3,469	32%
	(a) Pollution prevention and environmental protection costs	Costs related to the preservation of air and water quality	105	1,621	
		• Operating/maintenance expenses related to activities aimed at curbing air pollution (335), global warming (182), water pollution (852), soil pollution prevention expenses (6) and other expenses Investments in air pollution prevention activities (26); water pollution prevention activities (79); other investments			
	(b) Resource recycling costs	Costs related to the maintenance or improvement of energy consumption and internal and external waste disposal	85	1,848	
		• Operating/maintenance expenses for activities aimed at reducing energy and resource consumption (483), water consumption (4) and waste disposal (1,018); expenses related to the obligatory recycling of used merchandise (1.3) • Investments in activities aimed at reducing energy consumption (56), waste disposal activities (29) and other investments			
2. Environmental costs related to management activities (management activity costs)		Costs related to environmental and safety promotion and education; environmental management and auditing related to acquisition of ISO 14001 certification • Personnel/administrative expenses (244), ISO 14001 maintenance expenses (12), environmental load measurement expenses (57) and other expenses	(Note 1)	412	4%
3. Environmental costs related to technological activities (technological activity costs) (Note 2)		Expenses and investments related to the development of products that reduce environmental load (including personnel expenses)	670	6,604	62%
4. Environmental costs related to social activities (social activity costs)		Costs of plant and office greening programs and shared costs • Internal maintenance expenses (46), fees to external organizations (111), investment in greening programs (5) and other expenses	0	170	2%
5. Costs related to damage inflicted on the environment (environmental damage costs)		Environmental clean-up and other expenses • Levies on lake development (65) and other expenses	0	74	
Total			865	10,729	100%

Notes:
1. The investment portion of management activity costs is included in costs within the business area.
2. Technological activity costs are costs related to the development of products that reduce environmental load and include R&D costs of new products as well as improving/customizing existing products.
3. Scope: DIC plants and R&D centers, and affiliated companies and production facilities of affiliated companies located within DIC plants and R&D centers.
4. Period: Fiscal 2004

Table 2 Environment-Related Facility Investments and Technology Costs

Millions of yen

Category	Composition	Expenses
Environment-related facility investments	Investments in facilities to reduce environmental load and lower energy and resource consumption; other investments	865
Percentage of total facility investments	8%	
Environment-related technology costs	Investments related to environmental conservation technologies and the development of products that reduce environmental load	7,274
Percentage of total technology costs	27%	

Table 3 Economic Effects of Environmental Conservation Measures

Millions of yen

Category	Expenses
Income earned by waste recycling	448
Treatment cost reduction through waste recycling	535
Cost reduction through energy conservation	146
Total	1,130

Table 4 Impact of Measures to Protect the Environment

	Environmental Load Indices (Fiscal 1990=100)	
1. Impact of environmental protection measures within the business area	CO_2 emissions (calculated in tons of carbon) per unit of production	86
	SO_X emissions per unit of production	17
	NO_X emissions per unit of production	109
	COD emissions per unit of production	57
	Energy used (calculated in volume of crude oil used) per unit of production	88
	Emissions of solid wastes disposed of as landfill	12% (of the fiscal 1990 level)
	Target under DIC's reduction plan	20% (of the fiscal 1999 level) (base year for plan)
	Fees paid for waste disposed of as landfill (fiscal 2004 actual payment base)	¥4.6 million less than in fiscal 1990. (Note 1)
	Emissions of PRTR chemicals (revised list)	67% of the fiscal 1999 level. (Note 2)
2. Impact of upstream and downstream environmental protection measures	The reduction in CO_2 emissions realized as a result of modal shifts declined 661 tons. (Note 3)	

Notes:
1. The comparison of fees paid for the disposal of waste as landfill (fiscal 2004 actual payment basis) was calculated by subtracting the fiscal 2004 total from the fiscal 1990 total.
2. Figures represent emissions of PRTR chemicals based on a revised list of target chemicals that went into effect in fiscal 2001 and is retroactive to fiscal 1999. (The new list encompasses 480 chemicals, of which DIC uses 122.)
3. Calculations are based on standards set forth by the Japan Federation of Freight Industries in its Report on Survey of Modal Shifts. A significantly greater reduction in CO_2 emissions was realized through the use of large-scale transport modes in fiscal 2004.

2. Safety- and Health-Related Costs

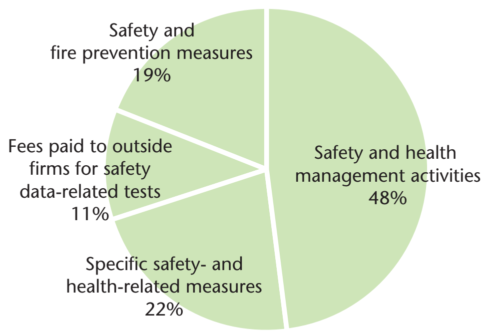
Safety- and health-related costs in fiscal 2004 comprised investments of ¥237 million, while safety- and health-related expenses were ¥771 million. A breakdown of these costs is shown in the graph to the right and table 5.

Table 5 Safety- and Health-Related Costs

Millions of yen

Category	Investments	Expenses	% of Total
Safety and health management costs (a) Safety management costs (b) Health management costs	176	368 349 19	48%
Specific safety- and health-related costs		172	22%
Fees paid to outside firms for safety data-related tests	0	83	11%
Safety and fire prevention costs	60	148	19%
Total	237	771	100%

Breakdown of Fiscal 2004 Safety- and Health-Related Expenses (¥771 million)



DIC'S RESPONSIBLE CARE ORGANIZATION

DIC conducts ESH activities as a part of its overall risk management program.

To promote effective risk management, DIC has established a Risk Management Committee. This committee is responsible for formulating and revising Companywide risk management plans, as well as for determining risk management policies for the entire DIC Group.

DIC has also established specialized conferences, under the direction of the Risk Management Committee, to address common issues affecting the entire Company. Responsible Care activities are overseen by the Environment and Safety Conference and the Quality Conference.

Responsible Care Implementation Organization

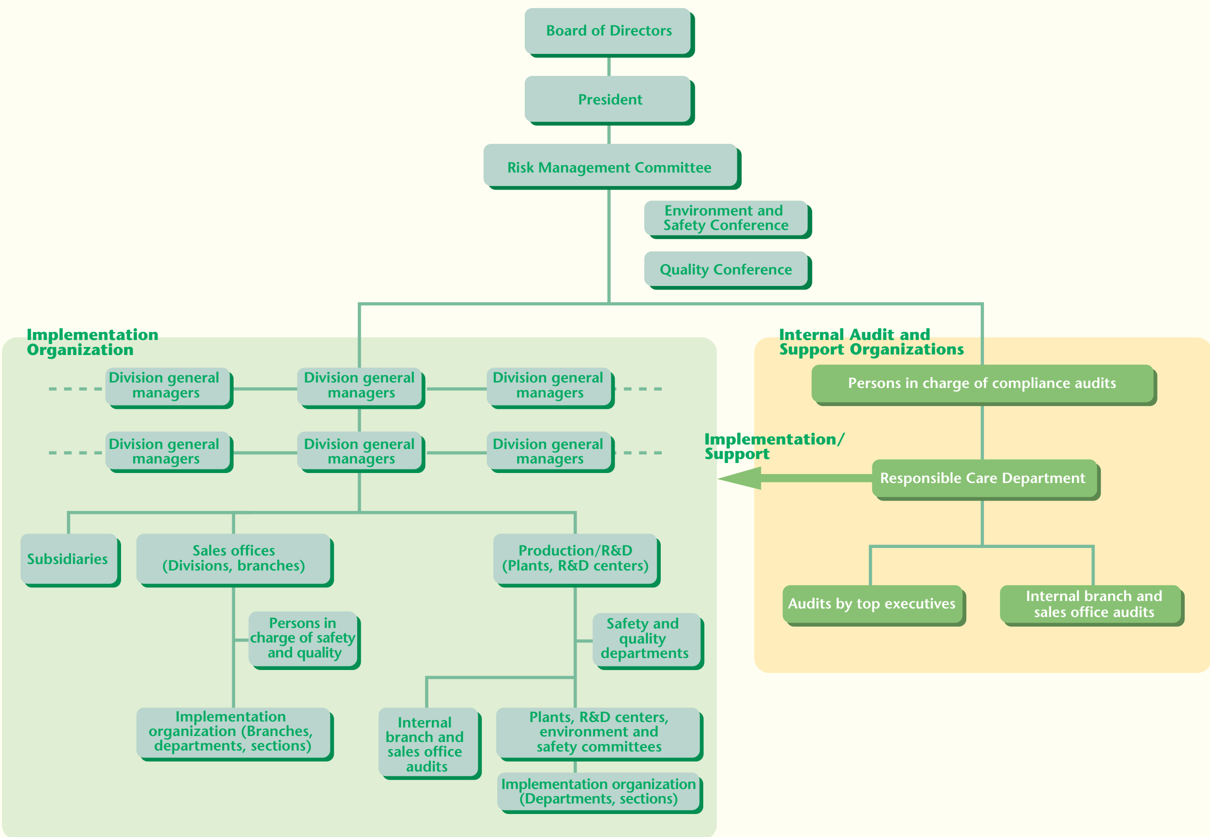
At each of DIC's plants and at its R&D facilities, an Environment and Safety Committee has been established and environment, safety and quality control personnel assigned. DIC has also assigned a Safety and Quality Management Supervisor to each sales office.

All of DIC's principal plants have obtained ISO 14001 certification, the International Organization for Standardization's global benchmark for environmental management systems, allowing them to measure Responsible Care efforts against internationally accepted criteria. Certified plants are listed on page 33.

Internal Audit Organization

DIC's Responsible Care Review Committee comprises directors and general managers of relevant business divisions of the parent company and monitors the Responsible Care activities of each plant on an annual basis. Inspection teams led by top executives also monitor the Responsible Care activities of each plant through on-site audits. Individual plants, R&D facilities and offices also conduct periodic internal audits.

DIC's Responsible Care Organization



DIC Group Risk Management

DIC embraces risk management to be ”a process for the appropriate management of the various risks (including compliance issues) relating to operations arising in the administration by the Company, in order to increase the corporate value of DIC and the DIC Group” and integrates the operations of risk management and the compliance program.

The Five Mechanisms of Risk Management

DIC Risk Management is structured upon the five mechanisms below:

1. The integration of risk management and compliance programs in order to increase corporate value
2. The establishment of a Code of Business Conduct, which applies in common to employees of DIC and the DIC Group
3. The clarification of work authority and responsibility
4. The establishment of an internal route for communications
5. The fulfillment of internal audit functions

Code of Business Conduct

In order to implement management policies beginning with “fair and transparent business activities” based on a principle of self-responsibility, DIC has established a Code of Business Conduct.

The officers and employees of DIC and the DIC Group must act in accordance with the Code of Business Conduct and respond firmly to the expectations of stakeholders, such as customers and companies, in each area where business activities are conducted, and gain their trust and confidence.

If an employee discovers any illegal activities, he or she is required to notify the relevant compliance department.

OUTLINE OF CODE OF BUSINESS CONDUCT

1. We shall strive to conduct our business operations in an effcient yet fair and ethical manner.
2. We shall comply with the letter and spirit of all applicable laws.
3. In order to ensure the reliability of financial reporting, we shall report the disposition in accordance with fair and proper accounting standards.
4. As responsible corporate citizens, we shall be sensitive to and respect all social norms, and conduct our business in a socially responsible manner.
5. We shall take a strong stance against anti-social demands.
6. We shall not violate the principles set forth in the Code, even if such violation would appear to be profitable for the DIC Group.
7. We shall promptly report any violations of the Code and strive to ascertain the cause of, and to prevent the recurrence of, any violations.

The Code of Business Conduct contains specific standards of conduct pertaining to:

1. The environment, products and safety
2. Employment and the workplace environment
3. Competition and business transactions
4. The reliability of financial records
5. The prohibition of insider trading
6. Relations with third parties, public officials and stockholders
7. Conflicts of interest

THE TASK OF RISK MANAGEMENT

Integration of risk management and compliance programs

↓

Earning and maximizing trust by stakeholders (customers, stockholders, etc.)

↓

Increase of sales of products and services

↓

Maximization of corporate value

IN THE COMMUNITY

Working Together

DIC's plants and R&D facilities throughout Japan endeavor to work with the community and contribute to local environmental efforts through a variety of initiatives, including participation in local clean-up programs, plant tours and community meetings.

DIC also provides support in the form of financial donations and products to people and areas affected by disasters. Following the Niigata–Chuetsu Earthquake, which struck Niigata prefecture, in Japan's Chuetsu region in October 2004, DIC donated ¥1 million via Niigata Prefecture's Emergency Taskforce Headquarters and a total of 530 industrial helmets to the cities of Nagaoka and Ojiya. Following the earthquake and subsequent tsunamis that struck the Indian Ocean region in December 2004, DIC donated ¥5 million to the Japan Red Cross. Thanks to donations from other Group companies and employees, the DIC Group's entire donation exceeded ¥10 million.

Many DIC employees also volunteer their time in the community in a variety of capacities. To support these efforts, DIC has established a system whereby employees are allowed time off from work for volunteer activities, as well as a system whereby employees who are members of the Japan International Cooperation Agency (JICA) can take sabbaticals to participate in JICA projects.

Cooperating with Local Authorities

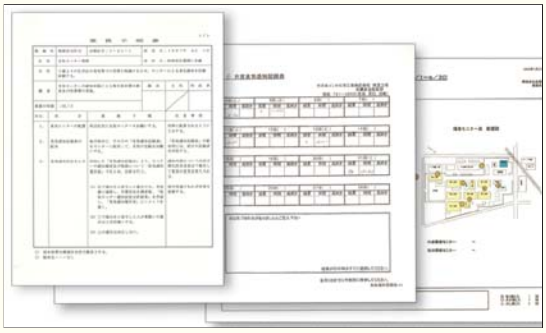
Numerous companies with operations in the area volunteered to assist the Chiba prefectural authorities with efforts to prevent the spread of contamination from a former industrial waste landfill site near the halfway point of the Yoro River in Ichihara. DIC assisted by implementing soil remediation. Chiba is using funds from the Chiba Prefecture Environment Foundation to fund this effort, part of a larger environmental restoration program.

Contaminated water recovery equipment installed at former industrial waste landfill site

Working with Local Residents

Since 1975, DIC has asked residents in the vicinity of its Hokuriku Plant to serve as Odor Monitors in an effort to promote dialogue and prevent unpleasant odors from disturbing the life of residents. These individuals monitor and keep records of odors in the air, which DIC collects monthly.

In fiscal 2004, an increase in the number of products being produced at the Saitama Plant necessitated the introduction of new solvents. DIC responded by installing odor detection meters and launching an Odor Monitor system for local residents. Although the plant had received no reports of unpleasant odors, this move succeeded in raising employee awareness as well as enhanced communication with residents.



Odor Monitor record

Spray-type odor elimination duct

Supporting the Arts

In the period under review, DIC was honored to accept the Mecenat Grand Prize for 2004 from the Kigyo Mecenat Kyogikai (KMK) for the Kawamura Memorial Museum of Art. The prize—the Japan Mecenat Awards' top tribute—recognized DIC's exceptional contribution to promoting culture and the arts. The museum was opened on the grounds of the Central Research Laboratories in Sakura, Chiba, to house DIC's collection of art. The museum continues to attract critical and public acclaim for its collection, as well as for its innovative architecture and beautiful natural surroundings.

For information on the Kawamura Memorial Museum of Art, please refer to the DIC web site's museum page (http://www.dic.jp/eng/museum/index.html).

Note: The Kigyo Mecenat Kyogikai (KMK) (Association for Corporate Support of the Arts) is a private-sector organization established in February 1990 to promote corporate support of the arts ("mecenat").

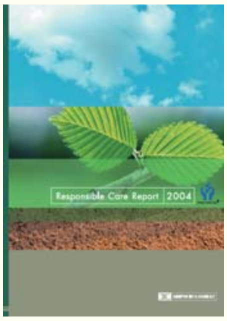
Mecenat Grand Prize (designed by Taro Shinoda)

Responsible Care Report

Copies of DIC's *Responsible Care Report 2004* were distributed to the head office, plants and the Central Research Laboratories for internal use and for handing out to visitors to the Company. An English-language version of the report was also prepared for DIC Group companies overseas.

Japanese- and English-language versions of DIC's Responsible Care reports for the past five years are also available on DIC's web site.

Responsible Care Report 2004



Top page of DIC's English site (http://www.dic.co.jp/eng/index.html)

URL for Responsible Care reports: http://www.dic.co.jp/eng/rc/index.html

● Site Reports

With the aim of providing accurate information to the public, five DIC plants also prepare site reports, which are dedicated Responsible Care reports, and distribute them at presentations organized for their local communities. The Kashima, Hokuriku, Sakai and Yokkaichi plants have been preparing site reports since 2002, while the Saitama plant began doing so in fiscal 2003.

Community Conferences

In fiscal 2004, the Kashima and Suita plants hosted JRCC community meetings. Principal DIC plants regularly host these meetings, which are organized by the JRCC to promote dialogue with local communities.

Participation in Industry Activities Aimed at Promoting the Safe Management of Chemical Substances

● Long-Range Research Initiative (LRI)

LRI is a voluntary program launched by the International Council of Chemical Associations (ICCA) in 1999 to provide long-term support for research into the effects of chemical substances on human health and the environment. Through this program, the global chemicals industry sponsors basic research aimed at broadening our understanding of the relationship between chemical substances, human health and the environment. The JCIA has been a participant in LRI since 2000. DIC has supported this initiative since its inception and currently has two representatives on the LRI planning and management panel.

● High Production Volume (HPV) Chemicals Initiative

The Organization for Economic Development (OECD) is currently implementing a program to assess the toxicity of approximately 1,000 HPV chemicals, that is, chemicals with annual global production volumes in excess of 1,000 tons. The ICCA, on behalf of the global chemicals industry, is cooperating with the OECD through the HPV Chemicals Initiative to accelerate the assessment process. A leading proponent of this initiative, DIC has been a sponsor for assessments in the plasticizers category for the past three years. DIC is also a cosponsor for assessments in the pigments category, which are being conducted in Europe.

● Support for the Development of Regulatory Systems for Chemical Substance Management

As a member of JCIA's working group on the Chemical Substance Control Law, DIC has played a major role in efforts to introduce amendments to the law in line with a bill passed by the Japanese Diet and has submitted several key recommendations.

DIC has also studied the new regulatory framework proposed by the EU, the Registration, Evaluation and Authorisation of Chemicals (REACH) system, and has put forward suggestions to the EU via the JCIA. In addition, DIC has sought to contribute to domestic policy-making efforts by exchanging views with government representatives on the safe management of chemical substances.

DIC is also a member of JCIA's working group on harmonization of chemical classifications. In this capacity, DIC has played a role in efforts to introduce amendments to the Labor Safety and Sanitation Law and has submitted several key recommendations. As a member of JCIA's research committee on chemical substances management, DIC proposed key recommendations and participated in establishing the framework for the Japan Challenge Program, which promotes government-industry cooperation in collecting and making public information on the safety of existing chemical substances.

DIC RC Report 2005 Independent Review

レスポンシブル・ケア®

September 15, 2005

To: Koji Oe
President, Dainippon Ink and Chemicals, Incorporated

Akio Yamamoto,
Chairman, Verification Advisory committee
Akio Yamamoto

Yasuo Tanaka,
Chief Director, Responsible Care Verification Center
Yasuo Tanaka

Purpose of Verification

The purpose of verification was to enable us, as experts in the chemicals industry, to offer out opinions on the following aspects of the 2005 Responsible Care Report of Dainippon Ink and Chemicals, Incorporated:

1. Rationality of methods used to calculate and aggregate performance indices and accuracy of figures
2. Consistency between information in the report and reference materials/material evidence.
3. Evaluation of Responsible Care activities
4. Distinguishing features of the report

Verification Procedures

- Head office: We interviewed, obtained reference materials from and listened to explanations by persons responsible for individual businesses and for compiling data to (a) investigate the rationality of methods used to calculate and aggregate performance indices collected from individual sites (sales offices and plants), and (b) ensure consistency between information in the report and reference materials/material evidence.
- Saitama Plant: We visited this site and interviewed, obtained reference materials from and listened to explanations by persons responsible for individual businesses and for compiling data to (a) investigate the rationality of methods used to calculate and aggregate performance indices submitted by the site to the head office, and (b) ensure consistency between information in the report and reference materials/material evidence.
- We conducted samplings to verify the accuracy of performance indices and information in the report.

Opinions

1. Rationality of methods used to calculate and aggregate performance indices
   - Methods used to collect and aggregate performance indices at the head office and the Saitama Plant were rational and figures were accurate.
2. Consistency between information in the report and reference materials/material evidence
   - We verified that information contained in the report is consistent with the reference materials/material evidence. At the proposal stage, we recommended several changes to improve the accuracy and the readability of the text. These recommendations have been implemented and in our opinion the published text warrants no further amendment.
3. Evaluation of Responsible Care activities
   - The Company can be commended for its efforts to eliminate emissions and for its success in achieving a significant reduction in industrial waste disposed of as landfill. Among the plants we visited, the Saitama Plant can be particularly commended for consistently achieving the goals it has set and pursuing new endeavors.
   - The Company can be commended for its efforts to increase the weighting of environment-friendly products in its lineup, namely establishing standards for assessing and designating environment-friendly products and creating a proprietary mark for products meeting these standards, as well improving product properties and promoting top-grade, environment-friendly products in the marketplace.
   - The Saitama Plant can be commended for its efforts to eliminate noxious odors and promote greater communication with local residents by establishing an innovative Odor Monitor system.
4. Distinguishing features of the report
   - The Company can be commended for its efforts to promote effective communications by making the Responsible Care report easier to read and more visually attractive, as well as for the measures it has taken to encourage the interest of readers, notably the inclusion of photographs of individuals.

DIRECTORY


Ishikari Plant


Gunma Plant
(Certified under ISO 14001 in February 1998)


Tatebayashi Plant
(Certified under ISO 14001 in July 2002)


Saitama Plant
(Certified under ISO 14001 in December 1997)


Kashima Plant
(Certified under ISO 14001 in July 1996)


Tokyo Plant
(Certified under ISO 14001 in December 1997)


Chiba Plant
(Certified under ISO 14001 in December 1997)


Hokuriku Plant
(Certified under ISO 14001 in September 1997)


Komaki Plant
(Certified under ISO 14001 in March 1998)


Yokkaichi Plant
(Certified under ISO 14001
in February 1998 and April 2001)


Shiga Plant
(Certified under ISO 14001 in July 1999)


Suita Plant
(Certified under ISO 14001 in July 1998)


Sakai Plant
(Certified under ISO 14001 in September 1997)


Fukuoka Plant


Central Research Laboratories

For information on ISO certification of DIC facilities, please refer to the DIC web site's ISO page (http://www.dic.co.jp/eng/rc/iso.html).

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