# CSR REPORT 2010

**English version** 

**DIC** Corporation

Color & Comfort by Chemistry

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# **Outline of the Report**

This report has been edited so that readers can easily understand the CSR activities of the DIC Group. The DIC Group conducted an 'evaluation of materiality' based on the following reference guidelines for society, economy and environment, from the perspective of importance for both stakeholders and DIC Group. In consideration of coverage and materiality, the items which should be reported have been determined and the relevant activities of the DIC Group are presented.

### <Linkage with Website>

The WEB mark ([WEB]) is indicated in the portions where the detailed data or related information can be seen, as a guide to the related pages on our website.

DIC website WEB http://www.dic.co.jp/en/index.html

#### Scope of the Report

This report covers DIC and the domestic and overseas Group companies included in the consolidated financial statement. Please refer to Page 23, however, for the companies covered by the report on the "Environment, Safety, Health and Quality." >> P23

#### Reporting Period

Target Domestic Companies April 1, 2009 to March 31, 2010 (FY 2009) Target Overseas Companies January 1, 2009 to December 31, 2009 (FY 2009) (Some of the FY 2010 topics are indicated)

#### Issued

September, 2010 (The next issuance is scheduled for September, 2011.)

#### **Reference Guidelines**

GRI "Sustainability Reporting Guidelines 3rd Edition," ISO26000 (CD) Issued December, 2008



## Cover Design

# A big tree filled with hopes and dreams

The cover of the report has been drawn by the hands of the next generation (the hands of DIC employees' children).

The motif of this year's design is "a big tree filled with hopes and dreams," which depicts our hope to be able to co-exist with stakeholders like trees in nature.

We hope that the CSR activities of the DIC Group will be rich and fruitful like a big tree.

# **CSR of the DIC Group**

WEB http://www.dic.co.jp/en/csr/measures.html

# The DIC Group positions as the basis of CSR, the fulfillment of its social responsibility to contribute to the development of society through its business activities.

The DIC Group has officially taken CSR into its management since FY2007. We make efforts to ensure an accurate grasp of changing social imperatives, including the issue of global warming and increasingly serious issue of resources, and respond with solutions that deliver the value that our many stakeholders expect. Through the continuous implementation of these initiatives, we aim to earn the trust of society and remain an enterprise that is capable of growing and evolving.

The DIC Group formulates CSR policies each year starting from FY 2008 as guidelines, to promote CSR at the ground level, and encourage awareness at both an organizational and an individual level. To foster concrete measures, we have developed 11 CSR themes have been set and each department responsible for carrying out CSR theme sets their respective annual targets.

#### **CSR Promotion System**

The DIC Group has a system in which each administrative department is responsible for carrying out CSR themes under the CSR Committee, to

CSR themes (FY 2010)

- 1. Compliance
- 2. BCM (Business Continuity Management)
- 3. Information Security
- 4. Reliability of Financial Reporting
- 5. Supply Chain Management
- 6. New Technology Development and Value Creation
- 7. Environment, Safety, Health and Quality
- 8. Business Model Focused on Customer Satisfaction
- 9. Human Resources Management
- **10.** Harmony with the Community and Contribution to Society
- **11.** Information Disclosures of CSR

\*For the details of each theme, please refer to Report on Our CSR Themes pages. >> P15



promote specific approaches to CSR. The Sun Chemical Group, however, promotes CSR under its own system.

[Supplementary Note 1] Color segment: indicating efforts mainly based on [Seconomic perspective], [Environmental perspective], and [Seconomic perspective].

[Supplementary Note 2] [Information Disclosure of CSR] in the table has two perspectives of [Economic perspective] and [Social perspective].

# DIC Group, globally active and expanding

The DIC Group has 203 affiliates and is active in a variety of business operations, including printing inks and synthetic resins, in 64 countries and regions in the world.

\*Main countries: American countries the United States, Canada, Mexico, Brazil, etc. European countries Germany, the United Kingdom, the Netherlands, France, etc. Asian and Oceanian countries China, Thailand, Malaysia, India, Australia, etc.
\*The sum of the operating incomes by region below does not correspond to that of the operating incomes of all the companies, as the former includes the cancelled amount (6.2 billion yen).

# Europe

# **European countries**

Sun Chemical an	d 59 other companies	
Number of employees		983
Net sales	188.9 billion	yen
Operating income	····· 7.8 billion	yen
Main business	Graphic	Arts

# Japan

DIC, DIC Graphics and 43 other compa	nies
Number of employees	6 900

Net sales	 345.6 billion yen
Operating income	 20.4 billion yen
Main business	 ····· Graphic Arts
	Industrial Materials

High Performance & Applied Products Electronics and Information Materials

# Asian and Oceanian countries

DIC China, DIC A	sia Pacific and 68	3 other companies	
Number of employees			5,967
Net sales		······ 94.9 billio	n yen
Operating income		······6.6 billio	n yen
Main business		Graph	ic Arts
		Industrial Ma	aterials

# Corporate Data (As of March 31, 2009)

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gistered name:	DIC Corporation	Number of employees:	3,326 (non-consolidated), 22,583 (consolidated)
rporate headquarters:	DIC Building, 7-20, Nihonbashi 3-Chome, Chuo-ku,	Domestic operations:	9 branch offices, 9 sales offices and 11 plants
	Tokyo 103-8233, Japan		(non-consolidated)
te of foundation:	February 15, 1908	Number of affiliates:	203 [domestic: 44, overseas: 159, including 85
te of incorporation:	March 15, 1937		companies in the Sun Chemical Group]
id-in capital:	82.4 billion yen		

# **Business Performance Highlights**



These graphs have been prepared from the accounts maintained in accordance with the provisions set forth in Japan's Companies Act and Financial Instruments and Exchange Act. The scope of consolidation differs from that used for the purposes of this report. In FY 2009, DIC had 171 consolidated subsidiaries and 32 affiliates.

# **American countries**

Sun Chemical an	d 28 other	companies	
Number of employees			4,733
Net sales		128.4 bill	ion yen
Operating income	··· Negat	ive 0.8 bill	ion yen
Main business		····· Grap	hic Arts

# ceania

# Operations

The DIC Group is a global market leader with printing inks, organic pigments and synthetic resins as its core businesses. The Group currently classifies its businesses into five core operations:

### Graphic Arts Business Operation

Synthetic resins, additives and chemicals

Printing inks, printing supplies, organic pigments, Color & Comfort (Decorative materials)

**Industrial Materials Business Operation** 

#### 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, healthcare foods

### **Electronics and Information Materials Business Operation**

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



\*Reorganization to new business segments was implemented on April 1, 2010. This report has been developed based on the old business segments to report on FY 2009.

# Increasing employee awareness and building win–win relationships with stakeholders

## Discussion

On June 7, 2010, Kazuo Sugie, President and CEO of DIC, spoke with certified public accountant Kazutaka Okubo, Partner of the CSR Promotion Department, Ernst & Young ShinNihon LLC, about DIC's efforts to contribute to the creation of a sustainable society.



## Understanding consumer expectations is crucial

**Okubo** My impression is that while CSR programs have become commonplace for Japanese companies in the past two or three years, such undertakings are generally inwardly focused—by which I mean that in most cases corporate CSR programs do not go beyond in-house measures. What is the DIC Group's approach to CSR? Please tell us about the basic philosophy underscoring your CSR program.

**Sugie** The DIC Group's CSR program is based on the idea of building win–win relationships with stakeholders. As a company, our principal stakeholders include our customers, clients, investors, local communities and employees. At the same time, each employee has his or her own group of key stakeholders, the composition of which varies depending on the employee's job affiliation, i.e., whether he or she is in sales, technology, production or another area. Our ability as a company to contribute to sustainable growth for society derives from the

accumulated efforts of individual employees to grasp and respond effectively to changing needs in their particular stakeholder group.

**Okubo** I agree that it is vital for employees on the front lines to really think about what they need to do to respond to the needs of stakeholders. The awareness of individual employees depends greatly on how the organization they work for addresses the challenges of CSR. DIC launched its CSR program in 2007, but are there any priorities that have remained constant since then?

**Sugie** I constantly tell employees that I want them to keep abreast of consumer expectations. DIC is essentially a B-to-B company, meaning that with a very few exceptions our products are aimed at other companies. As such, securing the recognition and support of customers and markets depends on our ability offer products that reflect sensitivity to changes in consumer needs and values. In the past, consumer needs focused on such concerns as convenience, speed and appearance. Recently, peace of mind, safety and comfort have been added to this list. Companies respond to evolving values by modifying their business approaches. For example, manufacturers of automobiles and food products today emphasize environmental and health-related concerns. We must do the same.

# Making a unique contribution to the resolution of issues of concern to local societies while promoting globalization

**Okubo** Achieving sustainability for the planet is an immense challenge, encompassing such issues as climate change, water and food security and the depletion of energy resources. How is DIC helping to address such issues through its core businesses?

**Sugie** We recognize the crucial nature of global warming and other sustainability-related issues. The DIC Group is not involved in such businesses as converting seawater into fresh water or developing alternative energy. However, we have worked steadily to help resolve environmental problems. For example, we have contributed to efforts to reduce the weight of automobiles by supplying engineering plastics as an alternative to conventional metal materials. We have also developed technologies that facilitate the use of water instead of organic solvents, thereby reducing emissions of volatile organic chemicals (VOCs) and CO<sub>2</sub>. These are just a few examples—the DIC Group has a wealth of other technologies and know-how with the potential to help address a broad range of global issues.

**Okubo** For organizations like the DIC Group that have extensive operations overseas, efforts to contribute to

sustainable growth for local communities will come under increasing scrutiny in the years ahead. What are your views on this?

**Sugie** Going forward, I believe we will find it increasingly essential to promote international specialization in our operations. Owing to the globalization of markets and the removal of national borders as barriers to economic activity, we now live in an age that demands we divide up operations all along the supply chain in a manner that capitalizes on the comparative advantages of different countries, thereby contributing to regional society. In doing so, it is important not only that we ensure uniform product quality wherever we produce, but also that we give sufficient consideration to local environmental concerns and regional economic development. To this end, it is essential that we make use of the environmental technologies we have cultivated in Japan in other countries.

**Okubo** I agree. Companies from industrialized nations setting up operations in developing countries are also expected to help protect the environment and contribute to local communities. Is it enough just to go there and manufacture quality products? Of course it isn't. What is important is how companies conduct their business activities, how they incorporate good corporate citizenship contributes to help resolve key local concerns.

**Sugie** Exactly. One of the fundamental reasons that standards of living in so-called developing countries are slow to improve is that transnational companies never really establish firm roots in the host countries, that is, they do not have a measurable positive impact on local employment in manufacturing, among others. Production in developing countries has the potential to stimulate local demand and ultimately help drive economic growth, so globalization is important.

*Okubo* Keeping all components of one's business of one's home country and simply exporting the results no longer has currency as a way of doing business, does it?

**Sugie** With the aim of ensuring that our global business strategy—including the idea of international specialization—is shared throughout the global DIC Group, beginning in September 2010 we will gather regional representatives together for regular meetings, enabling us to coordinate initiatives and promote a CSR-oriented management approach.

## Consistently providing value that reflects modern priorities is essential to achieving growth

**Okubo** I think it is fair to say that attaining the objectives of your new medium-term management plan, which began in April 2010, will require the entire DIC Group work as one to reinforce CSR-oriented management. What do you see as being necessary for you to drive CSR management forward?

**Sugie** One is the ability of all employees to remain abreast of evolving concepts of value. For example, the purpose of printing inks—the core original business of the DIC Group—is to reproduce color while transmitting information.

Printing inks were thus the principal medium whereby we provided value. In today's digital world, this role is fulfilled by such products as jet inks, liquid crystals (LCs) and materials for use in copy machines. We must also remain conscious of the fact that product life cycles are increasingly short. In response to such changes, we have shifted from a productspecific to a market-focused management approach. The biggest test will be to what extent the DIC Group can provide value that satisfies current expectations. I believe that only by providing new value will we secure future growth for the DIC Group and realize our Color and Comfort by Chemistry management vision.

**Okubo** I was told that you have set forth 11 key CSR themes in the current year to guide specific activities aimed at further enhancing CSR management. What will be expected of employees?

**Sugie** First of all, I want each employee to recognize who his or her stakeholders are and to show initiative in doing what he or she can to ensure the needs of those stakeholders are met. At the same time, I want employees to approach their jobs with pride in knowing that what they do for a living contributes positively to pleasant lifestyles and environmental protection, as well as with an adequate sense of responsibility.

*Okubo* There is no question that the effectiveness of a company's approach to CSR reflects its ability to create a corporate culture that encourages independence and a willingness to show initiative in implementing related measures. Looking ahead, I am confident that DIC's recognition of CSR as the foundation of corporate management will enable it to provide its stakeholders with greater value than ever before. Thank you for your time today.

Sugie Thank you.



# Special Topic 01

# Goals of the **DIC 102** Medium-Term Management Plan

# **Transforming DIC's Business Portfolio**

In November 2009, DIC announced a new mediumterm management plan, **DIC 102**. In addition to positioning fiscal year 2010 as the first year of our transformation into a provider of solutions, the plan sets two overarching targets: Realize our Color and Comfort by Chemistry management vision and restore DIC to a financial position that inspires confidence.

By implementing the strategies of **DIC 102**, we will build on the DIC Group's distinctive capabilities in chemical materials (synthetic resins and organic pigments) to offer complex and multifunctional products and solutions that bring color and comfort to

modern lifestyles. To this end, we will promote a shift from our traditional product-specific management approach to one that allows us to fully exploit the DIC Group's vast resources, thereby creating powerful Groupwide assets. We will also transform our business portfolio into one that responds to changing social imperatives, enabling us to offer new value. To ensure a sound financial condition, we will implement measures aimed at improving cash

implement measures aimed at improving cash flows, in line with our management vision. Such efforts will enable us to build a solid financial base as a company that contributes to society through its operations.

(Billions of yon)

# **Basic Policies**



# Targets for FY 2010 through 2012

	FY 2009: Result	FY 2010: Target	FY 2011: Target	FY 2012: Target	
Net sales	757.8	800.0	840.0	870.0	
Operating income	27.8	30.0	43.0	55.0	
Operating margin	3.7%	3.8%	5.1%	6.3%	
Ordinary income	19.1	20.0	33.0	45.0	
Net income (loss)	2.5	7.5	16.0	24.0	
Interest-bearing debt	377.7	370.0	355.0	330.0	



# New Business Segments: Growth Strategies Aimed at Contributing to a Sustainable Society

Effective April 1, 2010, we reorganized our operations into four new principal segments: Printing Inks & Supplies, in which we enjoy the leading global market share; Neo-Graphic Arts Materials, which augurs the future of printing inks; Synthetic Resins, encompassing basic materials that impart outstanding performance features; and Chemical Solution Materials, including products that contribute to peace of mind peace of mind, safety and comfortable lifestyles. Under this new configuration, we will strive to respond to evolving social imperatives and at the same time to build DIC into a globally oriented, high-growth organization by realizing our Color and Comfort by Chemistry management vision.

# Printing Inks & Supplies

In the Printing Inks & Supplies segment, we will strive to secure profitability by dramatically reducing costs in developed countries and expanding investment in packaging and other growth businesses and in developing economies.

# Neo-Graphic Arts Materials

In the Neo-Graphic Arts Materials segment, we will respond to the diversity of options for transmitting products, primarily in the field of color, that add value to digital equipment and other media and will drive future growth.

# Synthetic Resins

In the Synthetic Resins segment, we will provide products that impart advanced performance features to products to customers in a variety of industries. We will also provide differentiated synthetic resins to other segments for use internally as basic materials in complex and multifunctional products.

# Chemical Solution Materials

In the Chemical Solution Materials segment, we will develop a variety of distinctive products that integrate the DIC Group's core materials—notably synthetic resins and organic pigments. We will provide high-value-added DICbrand composite products and molded products to customers.



01 Goals of the Medium-Term DTC TO2 Management Plan
02 Busines

# Special Topic U2

# **Business Activities in Highlight**

~ Introduction of DIC Group's activities which contribute to a sustainable society ~

# 1. The original brand proposing a solution for interior problems, DIC200 (Decorative Interior Color)

DIC has long been supplying decorative boards and various residential interior finishing materials to the housing/construction market. Trying to supply products suitable for solving various problems, which people are faced with in their day-to-day life, DIC launched a new brand, DIC200 (Decorative Interior Color), to provide original interior finishing materials in 2008. The brand name "DIC200" is packed with the thought that, having celebrated DIC's 100<sup>th</sup> year in business, all of us have to aim to create a new brand, with which DIC can continue contributing to society during the next 100 years.

In DIC200, we are pursuing further functionality, making use of the DIC Group's expertise, and working on product design, trying to create new values, which respond to diverse market needs, from the standpoints of color, pattern and design.

WEB http://www.dic200.com/en/index.html

combustible decorative board series **DIC Funen Solid Color** Mono-colored incombustible decorative board **DIC Funen WO** Woodgrain-pattern incombustible decorative board Artificial marble series **DIC Hicerami Very Pale** Mono-colored artificial marbl DIC200 **DIC Hicerami Basic** Abstract/sand-texture artificial marble Wooden decorative board series **DIC Acrysta G** Ultra mirror-finish wooden decorative board **DIC Poly Solid** Polyester decorative board DIC auxiliary materials kits Color joiners, double-stick tapes, ceiling materials, etc.

DIC200 product lineup

Colored Incombustible Decorative Board, in Which the DIC Color Guide Has Been Developed into Materials ~ Mono-colored Incombustible Decorative Board, Called DIC Funen Solid Color ~

The Incombustibility Certification BM-0458 is obtained from The Ministry of Land, Infrastructure, Transport and Tourism. 6 mm in thickness

The Funen Solid Color supplied by DIC is an incombustible decorative board, excellent in taintless property, high hardness, water resistance and durability, and it has been used for more than 30 years as finishing materials for indoor spaces, restrooms and elevator halls of commercial



Usage example: Wall surfaces of a coffee shop (ARCHITECTURE + CONSTRUCTION MATERIALS 2010)

buildings, schools, hospitals and offices. In order to respond to the diverse needs for color in the market, DIC expanded the range of supply from the standard 8 colors, once and for all, to 42 colors with high vibrancy, while still maintaining a linkage of color variations with those color code numbers specified by the DIC Color Guide, and we started to supply them in September 2009. Also, we are pursuing greater comfort in human life by providing various functions, such as antibacterial effect, antistatistic performance, pest repellent effect, etc. Thus, DIC offers colorfulness with distinctive personality and comfort in life.



Custom-ordered colors are compatible with the DIC Color Guide

\*The decorative board "DIC Funen Solid Color" contains none of the 13 hazardous substances, such as styrene, as shown in the Indoor Air Quality Guidelines of the Ministry of Health, Labour and Welfare of Japan, and this product satisfies the grade F 🖧 📩 🏠 in terms of the formaldehyde emanation performance specified by the Building Standards Act, which means a product friendly to the Earth. (This is a voluntary regulation based on the labeling guidelines for regulation-exempt building materials.)

# Auxiliary Materials from DIC200, Which Are Useful at a Construction Site ~ DIC200 Auxiliary Material Tool ~

DIC is stepping up the development of auxiliary materials which are useful for solving problems at a construction site by combining various elemental technologies with the resources it has. In May 2010, we started to sell color joiners compatible with the lineup of 42-color DIC Funen Solid Color decorative boards. Thus, this made the degree of freedom very diverse in color design, which can be adopted for individual joints to come up with an entire space design. Furthermore, sales of woodgrain-pattern joiners (compatible with the patterns provided by the DIC Funen WO44) have also started. Making use of various kinds of expertise in core technologies, such as printing ink, pigment synthesis, coating, adhesion and tack technology, we are planning to add auxiliary materials, including

paints for repair, double stick tapes, and binding agents, which are all useful at a construction site, one after another to the lineup.



Color aluminum joiner for the DIC Solid Color \*Custom-ordered colors are compatible with the DIC Color Guide, and we can respond to orders, starting with one piece.

#### VOICE

#### DIC Funen Solid Color Has Been Chosen for Hospitals in China and West Africa by One Company in Taiwan



A construction example in Taiwan

Sunmed Medical Group is a company specialized in facilities for medical institutions. Services in the industry exceed 50 years and are global. Antibacterial decorative boards of DIC Funen Solid Color are mainly used for the wall surfaces of operation rooms of medical institutions. Operation rooms are required to have incombustible and antibacterial characteristics, and the incombustible decorative boards from DIC were found to be a perfect fit to the customer's needs. Thus far, this company has supplied DIC Funen Color Solid decorative boards to hospitals in not only Taiwan, but also Harbin in China, Ouagadougou, the capital city of Burkina Faso in West Africa, and so forth. Since DIC operates a branch office in Taiwan,



Mr. Benny Wu

the company can maintain communications directly with the material manufacturer, offering a huge advantage of providing high quality services and timely responses. Since actual usage shows that the quality and price of DIC products are very stable, the company has chosen DIC as the main supplier of incombustible decorative boards. The company is expecting DIC to further develop a wide range of new products and high performance products in the future. In addition, the company would like to start a new relationship with the Building Materials Division of DIC even in fields other than the medical area.

## VOICE

#### DIC Funen Solid Color Has Been Chosen for Interior Finishing of a Convenience Store for the First Time in the World



Construction example at the FamilyMart shop at Shibadaimon

For FamilyMart shops, the counter of the shop plays an important role: its face. In order to express something unique to FamilyMart through its counter, we had to create an image color, which can intensively resonate in customers' minds, something like healing, relief, gaiety and so on. We thought that there was no other material (color) than DIC Funen Solid Color, which was suited to perfectly expressing the image we, color coordinators, had. We reached our final conclusion after we had exhausted various analyses and comparisons with painted, melaminefinished, sheet and aluminum composite materials. Although they show a chic and gentle expression like a paint finish, the DIC Funen Solid Color decorative boards are excellent in durability, easiness at a construction site, cleaning performance, maintenance, etc.

Through a tremendous amount of help offered for coordinating colors

based on the DIC Color Guide and the color selection made in an appropriate and speedy manner, we were able to attain the target color. It is possible to create various expressions, depending on the color selected, degree of brilliance to be given to the surface, finished shape and so forth. We would like to see DIC further respond to market needs as a color consultant, even beyond our expectations.

Person in Charge of Commodity Adoption Shop Planning Group, Construction Planning Department, Development Division, FamilyMart Co., Ltd. 02

# 2. Our Efforts in Environmental Responsiveness with Printing Ink Products

In the midst of environmental protection activities expanding worldwide, the printing ink industry is no exception. Ink products not using hazardous substances (soy-oil ink and vegetable ink) of which decrease the use of petroleum-derived solvents have been developed. Even "none-VOC ink," which does not contain any petroleum-derived solvents, is gaining momentum in its market share. Waterless printing ink, which does not discharge water, can contribute to a reduction in VOC release from the entire printing process. We are also prepared to supply a special kind of ink, suitable for LED-UV lighting which is used at the drying stage to reduce electricity consumption, and another kind of ink with the property of easiness in recycling, etc. Thus, we have various kinds of products compliant with environmental protection activities through printing. It is possible to select an environment-conscious printing ink of best choice, depending on the customer's needs.

WEB http://www.dic-graphics.co.jp/en/



# 3. Offset Ink for LED-UV

The UV ink is designed to cure instantaneously through a photochemical reaction by means of UV energy, thereby showing a higher productivity than oil-based ink with natural drying characteristics, and this ink is also of the environment-conscious type (no VOC is contained). Due to these characteristics, the printing utilizing the UV ink has been broadly employed mainly for package printing for which many processing stages are required and therefore rigorous physical properties come into play. Recently, the high productivity and highly value-added property of the UV printing are drawing attention also in the field of general printing.

When using the LED-UV printing system, a reduction of 70 to 80% of electricity consumption can be expected as compared with the printing system using a conventional UV lamp. Also, partial lighting can be adopted easily, accommodating different paper sizes. So, these characteristics contribute to a reduction in environmental impact. Furthermore, there are various advantages: the lamp serves for a prolonged period of time, more than 10 times longer than before; improved productivity can be expected since the on/off operation is simple to do; there is no formation of ozone; and no thermal deformation occurs in printed matters. On the other hand, since the LED-UV lamp is weak in irradiation intensity and its light contains no short-wave UV light, sufficient curing is hardly attained for conventional ink. To cope with this problem, Daicure ABILIO<sup>®</sup> LED offers a UV offset ink, which cures under an LED-UV lamp without allowing its excellent ink properties to change.



LED-UV offset ink

# 4. Process Ink for Sheet-fed Printing

Having the world's top share\*<sup>1</sup> in printing ink and organic pigments, DIC Group is promoting the optimization of the ink production/supply system globally.

We started the production of environment-conscious sheet-fed process ink, called SunLit<sup>™</sup> Diamond, at a global mother plant newly established at the Dahej special economic zone in Gujarat Province in eastern India, from the end of last year. So, we are promoting the global supply from there

The aforementioned plant is a state-of-the-art automated plant with its core equipment from Europe and is capable of producing high-quality sheet-fed process ink efficiently.

We plan to expand its capacity in stages from now on, and bring it to a plant with a huge capacity, 30,000 tons per year, at the final stage.

The sheet-fed process ink supplied from this plant to various places globally, contributes to carbon offset as a non-VOC product, also environment-conscious in compliance with international standards, such as RoHS, REACH and EN71/3.

As a global mother plant, this is the second one following the Nantong plant, established in China. In the DIC Group, we will continue to work on the optimization of the production/supply of various kinds of ink.



Appearance of the global mother plant

\*1 As for our global share, the printing ink shares approximately 30% and organic pigments share approximately 25%. The organic pigments are the main raw materials for the printing ink.

# 5. Green Pigment for the Color Filter of the Liquid Crystal Display

In the liquid crystal display, color images are produced when the lights produced by the cold cathode tube or LED located in the back of the LCD panel are transmitted through the three-color filter (red, green and blue). So, depending on differences in the characteristics of the color filter, the spectrum and intensity of the transmitted light varies; namely, these characteristics largely affect the performance of the LCD panel.

DIC's FASTOGEN Green A110, as a green pigment

used for the color filter of the LCD, including LCD TV sets, shows a tremendous improvement in luminance characteristics, contrast ratio and color purity, as compared with conventional pigments. Due to this, in addition to improved high-guality images of LCD, since the same level of brightness can be generated with a lesser amount of light than ever before, a sizable electricity saving can be achieved.



# 6. Urethane Resin for Artificial Leather

Urethane resin is used for car seats and interior finishing as a raw material of artificial leather and imparts an excellent texture close to that of real leather.

DIC's polyurethane resin destined for artificial leather to be used for the interior finish of cars provides excellent durability and comfortable ride quality due to its own unique expertise in resin designing, composition and processing. Also, in order to respond to the requirement for the decreasing of VOC inside the vehicle, we are also putting our efforts into the development of environmentally friendly products, such as toluene-free and water-based materials.



Car seat

# 7. Halogen-free PPS Resin

Mainly in the computer industry, the effort of eliminating halogens (i.e., chlorine and bromine, which trigger the formation of dioxin, the causative agents for environmental destruction) from products is intensifying. PPS (polyphenylene sulfide) from DIC is used as a material for electronic parts, such as connectors, optical pickup devices. Although the PPS resin does not use any halogen-derived fire retardants, it is regarded as a halogen-containing resin due to a trace amount of chlorine, which is inevitable due to its structure. So, requests for decreasing the chlorine content were increasing. By combining its own polymerization expertise with an alloying technology, DIC has successfully decreased the chlorine content of the PPS resin to a level lower than the requirement level, 900 ppm. Thus, DIC has completed the lineup of lowhalogen PPS compounds.

WEB http://www.dic.co.jp/en/products/pps/





Connectors

A component for CD pickup lenses

# 8. Environment-conscious Adhesives Used for Food Packaging

Adhesives used for food packaging are those adopted for the laminating process of plastic films and/or aluminum foils used as packaging materials for various kinds of food, such as snacks and vacuum-packed foods.

For the general-use food packaging materials used for snacks etc., the adhesion characteristic is mainly required, whereas, for the packaging materials used for vacuum-packed foods, various properties are required. Heat-resistant properties to allow the sterilization at high temperatures to be conducted prior to shipping or high-temperature cooking, and high-moisture resistance properties are mainly required. Solvent-type adhesives, which are used for the lamination after being diluted with a solvent, are mainly used. However, in the case of solvent-type adhesives, the release of VOC occurring at the time of dilution of the adhesive and during the drying process of the solvent thereafter is pointed out as a problem.

In order to cope with this problem, the DIC Group has developed various kinds of adhesives, including a highsolid type in which the amount of organic solvent is reduced, a water-based type for which tap water can be used, and a non-solvent type for which no dilution with a solvent is required.

#### An ample lineup of non-solvent type adhesives

Since the non-solvent type adhesive does not require any dilution at the time of the lamination process and thereby the process of drying the solvent out can be omitted, the VOC release can be avoided, and even a sizable amount of solvent cost can be reduced. We have obtained an approval for our Food Contact Notification submitted to the U.S. FDA and thus the safety as a food packaging adhesive is already confirmed.

DIC Graphics has prepared a product lineup that covers non-solvent-type adhesives for the range from snacks to vacuum-packed foods and the entire range of usage of solvent-type adhesives.



Various kinds of snacks



# Our Efforts of Preventing Global Warming:

# **Engagement of the Kashima Plant**

# Introduction of Wind Power Generators

Based on an ESCO (energy service company) business agreement with Hitachi, Ltd., DIC started to operate a wooden biomass boiler and a steam turbine power generator in FY 2008, and installed two sets of 2,300 kW-rated wind power generators manufactured by Enercon from Germany and started their operation in FY 2009. The Kashima district is located on the Pacific Ocean coastline with good wind conditions and an average wind speed of 5.5m/s. As for the main features of these wind

power generators, although they are one of the largest facilities in Japan, they are capable of starting the generation of power (440 V) even with a wind speed of only 2.5 m/s. So, the cost in maintenance and their noise level can be reduced due to the gear-less construction, they are of variable speed type and high in efficiency, and stresses caused by lateral winds are low due to their cylindrical design adopted for the crown shape. Together with biomass electric generation, they will significantly contribute to the reduction of fossil-fuel energy consumption and  $CO_2$  emissions.



Biomass power generation facilities



Wind power generators (The portion on the near side of the canal is the site of the DIC Kashima Plant.)



# Effects of the Restructuring

As an effect of the global warning prevention achieved through the energy restructuring made to the Kashima Plant in FY 2009, an amount of  $CO_2$  emissions of 31,423 tons (equivalent to 59% of the entire Kashima Plant) was reduced. As a break down, an electricity amount of 5,315 MW (equivalent to 1,320 kl of crude oil) was generated by the wind power generators, where an amount of 2,222 tons in  $CO_2$  was reduced, and a heat amount of 474,913 GJ (equivalent to 12,253 kl of crude oil) was generated by the biomass boiler, where an amount of 29,201 tons in  $CO_2$  was reduced.

The amount of  $CO_2$  emissions reduced at the Kashima Plant shares 11% of the total  $CO_2$  emissions released by the entire domestic DIC Group in FY 2009.

# Effort made by the Sun Chemical Group

# SunCare<sup>®</sup> Management System

The Sun Chemical Group recognizes that the fulfillment of corporate social responsibility is the core of their business management. Therefore, in order to secure the environmental protection and employees' safety and health and respond to the needs of society, the entire group is promoting its own SunCare<sup>®</sup> management system.

The SunCare® management system is designed to make the continued activities for the environment, safety and health

sustainable and to enable them to improve. Also, typical examples of practicing the SunCare<sup>®</sup> program are shared by the entire group and are useful for the training on compliance and risk management.

WEB http://www.sunchemical.com/

SunCare<sup>®</sup> session (Illinois, USA)

SunCare<sup>®</sup> session (California, USA)

# **Energy Consumption Reduction Project**

In order to reduce the environmental impact derived from its own business activities, the Sun Chemical Group has reduced its environmental impact since 2005 by collecting environmental performance data, such as energy consumption, water consumption and waste, and implementing various measures designed to reduce individual performance metrics. Reduction of carbon dioxide  $(CO_2)$  emissions, which contributes to the prevention of global warming, goes hand-in-hand with the reduction of energy consumption. Six main projects have been implemented to reduce energy consumption:

- 1. Reduction of the base loads of the systems and equipment their non-operating periods
- 2. Correct setting of air compressor pressures
- 3. Re-examination of lighting efficiency and switchingover to an energy-saving lighting system
- 4. Reduction of natural gas consumption by reusing the energy obtained from heat recovery from production systems, equipment and cooling water
- 5. Leveling-off of utility demands (such as electricity and natural gas)
- 6. Optimization of temperature control of airconditioning units

Consequently, the energy consumption in FY 2009 was reduced by 8.6% as compared with FY 2005.

The major contributing factor was the amount of purchased electric power, which we successfully reduced by 34%. With this achieved, the amount of  $CO_2$  emissions from the entire Sun Chemical Group was 275,161 t-CO<sub>2</sub>.

#### Sustainability Performance (Electlicity/Thermal Energy)



\* Total number of sites, including manufacturing, warehouses and admin is 145, The percent of sites included in metrics is 91. \*1 Thermal energy is primarily the natural gas consumed on-site to

generate required process and building heat.

# Energy Reduction Project: the Sun Chemical plant in Koge, Denmark

V O I C E

The production plant in Koge, which is operating as a major production site of pigments in Europe, introduced an energy management system in 2003 in order to manage various activities for reducing the energy consumptions and potential energy demands, and ever since then it has earnestly been working on it.

In order to boost employees' sense of participation in the energy saving effort, we selected energy team members, who could work as core participants at each manufacturing department, and provided them with training regarding how to properly survey and conduct an analysis on the present status on each department and how to discover opportunity for a reduction in potential energy demands.

We have attained significant results from the two most recent projects: one was to set building heat control systems correctly, and the other was to optimize production processes (i.e., a  $6\Sigma$  project

applied to the waste water treatment system). Concerning the  $6\Sigma$  project, since the biological treatment process used for the waste water treatment facilities was operating round-the-clock, we closely looked into the relationship between the operation conditions and the waste water treatment performance, and thereby we succeeded in achieving an energy reduction of approximately 60%. At the same time, we successfully satisfied the effluent standard in the same manner as before. Through these two projects, we achieved an energy reduction of over 3,000 MWh per year (equivalent to an annual reduction of approximately 1,000 tons in CO<sub>2</sub> emissions). Presently, we are promoting new energy saving projects aimed at an annual reduction of greater than 2,000 MWh.

Energy team members

# **Report on Our CSR Themes**

# **Report on Compliance**

WEB http://www.dic.co.jp/en/csr/management/index.html

# Corporate Governance

The DIC Group makes efforts for the improvement of corporate governance to promote a sounder and more efficient management for the achievement of sustainable corporate growth and development.

WEB http://www.dic.co.jp/en/csr/management/governance.html



# Compliance

**Targets and Achievements of Major Approaches** 

Items	Viewpoints and tasks of the approaches	Targets for FY 2009	Achievements in FY 2009	Targets for FY 2010
Compliance	Spread and establishment of compliance awareness and CSR in the DIC Group	Implementation of a self-check regarding The DIC WAY and CSR	Generally high compliance awareness has been identified as a result of collection of responses	Preparation and distribution of the Q&A on The DIC WAY Code of Business Conduct (Japanese version) · Building of an English/Chinese version e-learning system on The DIC WAY Code of Business Conduct
Ensuring of Fair Trade	Improvement of the awareness to comply with the Antimonopoly Act to be strengthened	Improvement of the system to comply with the Antimonopoly Act	A total of 36 explanatory meetings on the revised Antimonopoly Act of Japan were held.	Preparation and distribution of the Q&A on measures of unfair trade Development of rules for contacting people in the same business to prevent the infringement of the Antimonopoly Act
Measures Against Anti-Social Groups	Establishment of a system to take a decisive stance toward anti-social groups	Establishment of a preventive system in DIC and domestic Group companies	Almost all persons in charge of measures against anti-social groups attended and completed the training course offered by the neighborhood Prefectural Centers for the Elimination of Boryokudan.	To make efforts in respective offices to build a system to address anti-social groups, with the persons in charge taking the lead, based on the DIC Group's Manual for Dealing with Anti-Social Groups.

\*For details, please visit the following page on the DIC website at WEB http://www.dic.co.jp/en/csr/management/code\_of\_conduct.html

# **Major Activity Highlights**

## Spread of The DIC WAY

The DIC Group conducted a self-check regarding The DIC WAY and CSR in a total of 124 business locations, including divisions, offices and subsidiaries both at home and abroad. Based on the responses made by division presidents, office general managers and subsidiary presidents, it has been confirmed that the spread of The DIC WAY and CSR is being promoted throughout the DIC Group.

On October 1, 2009, the DIC Graphics Corporation, formed by the integration of the domestic printing inks business of DIC and The Inctec Inc. (a subsidiary of the Dai Nippon Printing Co., Ltd.), offered an e-learning program on The DIC WAY Code of Business Conduct to the new members since the integration, and completed.

#### **Enhancement of Corporate Governance**

For the further enhancement of corporate governance, a total of four board members, consisting of two external directors and two external auditors of DIC, have been designated as independent directors/auditors under the Securities Listing Regulations of the Tokyo Stock Exchange in March 2010.

# Enhancement of the System for Compliance with the Antimonopoly Act

In conjunction with the revision of the Antimonopoly Act of Japan in January 2010, explanatory meetings were held regarding the compliance with the law (involving subsidiaries and affiliates). A total of 36 meetings were participated by about 900 persons, consisting mainly of salespersons.

DIC continues to make efforts for the further strengthening of the system to comply with the Antimonopoly Act now and in the future.

# **Report on BCM (Business Continuity Management)\***

WEB http://www.dic.co.jp/en/csr/management/bcm.html

\*The theme name has been changed to BCM (Business Continuity Management) starting from FY 2010.

#### **Targets and Achievements of Major Approaches**

Viewpoints and tasks of the approaches	Targets for FY 2009	Achievements in FY 2009	Targets for FY 2010
To develop a BCP in each business operation	Development of a Business Continuity Plan (BCP) in each business operation based on the (draft) Main Points of Business Continuity Management (BCM)	The plans have been developed except in the Graphic Arts Business Operation.	Development of a business operation-wide BCP
To determine the Main Points of BCM	Adjustments of and determination on the Main Points of BCM to gain approval of the CSR Committee	Targets have been achieved as planned.	Continuous review of the Main Points of BCM
To revise the Regulations on Crisis Management for Disasters	Establishment of a basic policy for Business Continuity Management; Establishment of the Rules of Crisis Management for Disasters	Targets have been achieved as planned.	Implementation of maintenance and training of the crisis management system against risks other than disasters/ Implementation of drills

# Establishment of the Business Continuity Management (BCM) Policy

The DIC Group has established the Business Continuity Management Policy with the following purposes in order to be prepared for a variety of risks that may affect business continuity, including large-scale natural disasters, accidents in factories, major outbreaks of influenza, etc.

- 1. We will make our utmost efforts to ensure the safety of lives of employees, workers of cooperating companies, local residents, etc.
- 2. We will serve the local community in evacuation and relief activities for afflicted citizens and reconstruction assistance for afflicted areas.
- 3. We will carry out our responsibility to supply products to customers by continuing the supply of main products or by resuming supply as soon as possible.
- 4. We will continue operating to the extent possible to minimize the effect on our business so as to live up to the expectations of shareholders, creditors and employees.

The Business Continuity Management Policy specifies the following items, other than the purposes as listed above:

- Scope of application of BCM
- Framework of BCM
- · Establishment of an effective operation system for BCM

Please visit the DIC website for details of the measures for BCM, including the Business Continuity Management Policy.

# **Major Activity Highlights**

Based on the Rules of Crisis Management for Disasters, an emergency communications drill, using the Disaster Safety Confirmation System, was carried out with the following purposes:

- 1. In order to be ready for a sure safety confirmation in an emergency.
- 2. In order to have the members/managers of the **Disaster Safety Confirmation System acquaint** themselves with the operational procedures for a proper operation of the system.

### VOICE



Takavuki Hariu General Affairs Section, General Affairs and HR Dept.

In FY 2010, along with our efforts in BCM, we plan to work on crisis management that requires even speedier responses.

Approaches to BCM

**Business Continuity Management** 

(BCM) tends to be regarded as a defensive management strategy from the aspect of crisis management.

We engage in BCM, however, to make our employees aware that it is an aggressive management strategy that will help improve the customers' trust in DIC through the strengthening of corporate foundations, and as a result, produce various positive effects on business operations.

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# **Report on Information Security**

WEB http://www.dic.co.jp/en/csr/management/security.html

#### **Targets and Achievements of Major Approaches**

Viewpoints and tasks of the approaches	Targets for FY 2009	Achievements in FY 2009	Targets for FY 2010
Protection of Business Information	Establishment of the Confidential Information Management Regulations and setting up of information management guidelines	<ul> <li>The Confidential Information Management Regulations were established in December 2009 and specific information management guidelines are currently being developed.</li> <li>The establishment of an integrated ID authentication infrastructure has been internally approved and activities for the establishment have started (with a scheduled completion by April, 2011).</li> </ul>	<ul> <li>To set up confidential information management guidelines and keep every employee informed of the Regulations through internal education.</li> <li>To enhance IT governance within the Group.</li> </ul>

# **Major Activity Highlights**

The DIC Group recognizes that it is important for business activities to properly manage and use information assets and positions information security as an important management item. We established the Information Security Policy in FY 2006 and worked to improve our information security system.

In FY 2009, we established the Confidential Information Management Regulations as internal regulations based on the Policy to establish a management and protection system for information assets. In compliance with these regulations, the Chief Information Management Officer is designated as the person responsible for the companywide information security system and Chief Information Managers and Information Managers are positioned in respective business operations and administrative departments for the proper management of information assets. We have developed management and use guidelines for information devices, including personal computers and servers, to ensure compliance with the internal rules on the prohibition of the use of business information on personal computers installed at employees' homes and others for the increased awareness of employees. In FY 2010, we plan to develop specific information management guidelines based on the Confidential Information Management Regulations and work to keep every employee informed of the above Regulations through internal education.

In terms of systems, starting from FY 2009, we are building an integrated ID management system on a companywide basis in addition to the conventionally conducted prevention of fraudulent connections to our internal network and automatic detection of harmful software. Moreover, we started introducing a system to prevent leaving or taking away confidential materials by requiring personal authentication using company IC cards at the time of using a printer, copier, and other output equipment.



DIC Group Information Security Management System Chart

# **Report on the Reliability of Financial Reporting**

WEB http://www.dic.co.jp/en/csr/management/finance.html

#### Targets and Achievements of Major Approaches

Viewpoints and tasks of the approaches	Targets for FY 2009	Achievements in FY 2009	Targets for FY 2010
Organization	To promote the transfer of routine operations to the Shared Service Center based on the review by the project team	<ul> <li>We have developed an action plan and made preparations for the implementation in FY 2010</li> </ul>	Setting up of the Business Support Dept. and promotion of the standardization of operating procedures through the integration of factory accounting divisions Promotion of efficiency through the integration of accounting centers into the Operations Support Department
Improvement and design of rules and regulations, and documentation of business processes	Upgrading of internal controls by promoting improvement of regulations and documentation of business processes	The Internal Audit Charter have been established     The Confidential Information Management Regulations have been established     DIC Group Purchasing Management Rules have been established     The Regulations of DIC Graphics have been developed and documentation of business processes has been promoted	<ul> <li>Establishment of credit management regulations</li> <li>Establishment and documentation of standard business processes after the setting up of the Business Support Dept.</li> <li>Improvement of the efficiency of the management of internal control documents</li> </ul>
Internal audit	To look for measures to increase efficiency such as standardization of audit procedures	<ul> <li>The Internal Auditing Manual has been developed</li> </ul>	<ul> <li>A theme audit was conducted on a trial basis (Audit of transfer pricing)</li> <li>Implementation of the audit of corporate governance of regional headquarters</li> <li>Improvement of the Internal Audit Manual (Addition of a chapter regarding audit of IT controls)</li> </ul>
Self-assessment	Increase of effectiveness and efficiency of self- assessment	<ul> <li>Spread to DIC Graphics</li> <li>The self-assessment checklist has been improved</li> <li>Self-assessment with affiliates as targets has been implemented</li> </ul>	<ul> <li>Increase of efficiency of management and evaluation of self-assessment</li> </ul>

# **Major Activity Highlights**

In order to comply with the Internal Control Report System (J SOX) under the Financial Instruments and Exchange Act, all personnel in the DIC Group related to financial reporting of the business locations both at home and abroad have worked to establish appropriate internal controls. While working on the improvement of internal regulations such as accounting guidelines and authority-related rules and documentation of operating procedures, we make efforts toward the continuous improvement and upgrading of the reliability of financial reporting by monitoring the design and operational status of internal controls from a standpoint independent of the business activities and repeating the cycle of design, assessment, and improvement.

#### Idea to Set Up a Shared Service Center

In order to balance the maintenance and securing of a reasonable level of internal controls and the operational efficiency in FY 2009, a project team was set up to review the idea of performing routine operations collectively at a shared service center. In this project, a plan has been developed to transfer, in stages, sales accounting, factory accounting and cashier operations to the Business Support Dept. to be newly set up. In the future, by implementing this plan, operations that have been performed respectively in factories, branches and affiliates will be integrated and improvement in operational efficiency and promotion of standardization of business processes are expected.

#### **Optimization of Monitoring Procedures**

Regarding monitoring procedures, staff in the internal

audit at regional headquarters in Japan, Southeast Asia/ Oceania region and Greater China district have jointly reviewed the standard internal auditing procedures and completed the development of the Internal Audit Manual in April 2010. For assessment procedures as well, we work to balance the improvement of efficiency by standardization and that of effectiveness by choosing an appropriate scope and methods of audit depending on the degree of risks.

#### **Activities in Sun Chemical Group**

The Sun Chemical Group is working on the introduction of a new ERP package and a shared service center. With these measures, the internal control flow will be integrated and by shifting to IT controls, the reliability of financial reporting will be more effectively ensured and maintained.

Human Resource Management

Harmony with the Community and Contribution to Society

Compliance

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Information Security

The Reliability of Financial Reporting

Supply Chain Management

New Technology Development and Value Creation

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> Information Disclosures of CSR

# **Report on Supply Chain Management**

WEB http://www.dic.co.jp/en/csr/stakeholder/partner.html

#### **Targets and Achievements of Major Approaches**

Viewpoints and tasks of the approaches	Targets for FY 2009	Achievements in FY 2009	Targets for FY 2010
Purchasing Management Rules	Established in September 2009	Effective January 1, 2010	A follow-up will be made on the establishment of the Purchasing Management Rules used by domestic affiliated companies, using the DIC Group Purchasing Management Rules as a model.
DIC Group Supply Chain CSR Deployment Guidebook	Prepared in December 2009	Distributed to major suppliers in February 2010	The DIC Group Supply Chain CSR Deployment Guidebook (Ver.1) will be prepared and distributed, and questionnaires will be collected, while English and Chinese versions will be prepared in order to start actions for overseas suppliers.

The DIC Group believes that we need to focus on society and the environment in our entire supply chain from the procurement of raw materials to manufacturing and sales of our products. So, as an effort toward carrying out CSR procurement, we established the DIC Group CSR Procurement Guidelines and the DIC Group Green Procurement Guidelines, both of which are useful as guideposts to suppliers. In order for everyone to understand both guidelines properly, we prepared the DIC Group Supply Chain CSR Deployment Guidebook, distributed its copies to major suppliers and collected check sheets from them.

#### **DIC Group Universal Purchasing Policy**

The Basic Purchasing Policy (four items) of the DIC Group was established in July 2008, based on the spirit of The DIC Way.

#### **DIC Group Purchasing Management Rules**

The Purchasing Management Rules were put into effect in January 2010 in order to implement the DIC Group Universal Purchasing Policy.

#### **DIC Group CSR Procurement Guidelines** The nine items are required for suppliers to satisfy: **DIC Group Green Procurement Guidelines** 1) Compliance with laws and social norms Guidelines for the manufacturers of the raw materials to be 2) Respect for human rights and consideration to work environment purchased are required 3) Promotion of a sound business management · Implementing chemical management thoroughly in compliance 4) Consideration to the environment with the relevant regulations of raw materials. • Obtaining a certification for the environmental management 5) Information security 6) Appropriate quality, safety and improved technologies system or working on the environmental conservation. Reducing environmental impact for the entire products. 7) Flexible attitude to implement stable supply and respond to changes Criteria for the selection of raw materials 8) Contribution to a local community and society · Submitting MSDS, MSDSplus and DIC Raw Material Survey Sheet 9) Promotion of CSR and deployment of it into a supply chain prepared in compliance with the relevant regulations. **Educational activities** A guidebook to be used by suppliers to better understand **DIC Group Supply Chain CSR Deployment Guidebook** and deploy the DIC Group CSR activities DIC Group Universal Purchasing Policy **CSR Deployment Answer Sheet:** DIC Group Green Procurement Guidelines DIC Group CSR Procurement Guidelines Survey Sheet: DIC Group Green Procurement Guidelines DIC Group CSR Promotion Self-Check Sheet Based on the nine main CSR items, By self-evaluating in three stages the status of A survey is conducted on raw material their own effort regarding those 38 CSR items, manufacturers regarding whether or not they suppliers can better understand the status of are compliant with the DIC Group Green Procurement Guidelines. a breakdown into 38 specific items is made, and progress of their own company in CSR activities. both questions and explanations are provided. Improvement activities

· By feeding back to suppliers the evaluation findings obtained from the CSR Deployment Answer Sheets submitted by individual suppliers, CSR efforts are promoted by each supplier.

Feedback of DIC Group Evaluation Findings:

- Based on the findings from the DIC Group Green Procurement Guidelines Survey Sheets, improvement is
   requested to specific raw material manufacturers.
- \*As for the DIC Group's Universal Purchasing Policy and the DIC Group Supply Chain CSR Deployment Guidebook, please refer to DIC's website: WEB http://www.dic.co.jp/en/csr/stakeholder/partner.html

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# **Report on New Technology Development and Value Creation**

WEB http://www.dic.co.jp/en/csr/technology-development.html

#### **Targets and Achievements of Major Approaches**

Viewpoints and tasks of the approaches	Targets for FY 2009	Achievements in FY 2009	Targets for FY 2010
Development of environment-conscious technologies/products	Promotion of research subjects on the environment	An increase of 14% in the number of reseach subjects on the environment	Promotion of research subjects on the environment     Launching of new environmentally conscious products on the market at an early date

# **Our Accomplishment until FY 2009**

The DIC group is working on the development of new technologies and products aimed at the realization of the DIC's theme "Color & Comfort by Chemistry." The R&D force of DIC is made up of the Technical Department of each Division and the Corporate R&D Department, and it maintains close coordination with various technical arms (as showed in the Figure on page 21). It aims to conduct R&D more efficiently at a higher speed by making use of management resources globally.

As for environment-conscious products, we introduced an inhouse certification system in 2003 and since then we have been striving for a successive expansion. In 2008, in order to respond to changes in social demands for environmental harmony, we updated our own certification system; for example, all the registrations have to be re-examined every three years. The ratio of the environment-conscious products vs. the entire products in FY 2009 was 44%.

> \*Reorganized into a new business segment, effective April 1, 2010. However, in this page the reporting is made based on the old segment.

#### Graphic Arts Business Operation

Regarding the offset ink, we improved the sheet surface drying property and rub resistance property of the vegetable oil sheet-fed process ink to an industry top-level, and thus we developed a new product which can respond to the needs of an 8-color duplex printing machine. As for the adhesives, we are working on the development of various new products to be used for non-solvent-type food packaging materials, and we have prepared a system that can cover all the usages of conventional solvent-type products. Also, the adhesive for a solar cell's back sheet has been adopted by one of the top back sheet manufacturers.



As for the pigments, color filter-use green pigment is currently expanding its satisfactory performance at LCD panel manufacturers. Furthermore, new products of blue pigment have also been put into the market.

Concerning the group companies overseas, Sun Chemical is working on the development of many new products. They are in the course of creating a new family of products with energy beam-curing ink aimed at a broad range of usage, including UV LED offset ink, EB (electron beam) cured inks for paper packaging, etc. In the field of electronics ink, we are working on silver ink, silver paste, etc., aimed at antennas used for IC cards and solar batteries. Concerning pigments, we have developed a new line of product, which is characterized by intense, vibrant colors that can be used for cosmetics, i.e., lipsticks.



#### Industrial Materials Business Operation

For synthetic resins, while we work on expanding the UV resin business, by combining our various technologies, we are also developing high-value added and environmentally-friendly products. Concerning resins, aiming at the development of a new field, while working on the development of solvent-soluble resins for coating, with unique characteristics, we developed a new product with a characteristic that the deformation of its coating film due to temperature changes behaves almost similarly to that of copper. The polyurethane resin used for artificial leather is now expanding its usage, due to its increased durability, as an interior finishing material for cars on the market. We are also putting our efforts into the development of water-based products. Regarding the epoxy resin, we are working on the commercialization of an extra-high-temperature heat

resistant type aimed at next-generation printed circuit boards.

## **High Performance and Applied Products Business Operation**

Regarding industrial-use adhesive tapes, we developed double-sided adhesive tapes, in which we reduced the VOC release by more than 90% by using an emulsion-type adhesive and we even satisfied both of high reliability of adhesion and easiness in peeling-off for recycling. In the area of optical doublesided adhesive tapes, we succeeded in providing a high degree of transparency and restricting the foam formation caused by gases occurring from the plastic material used, and introduced a corrosion-inhibiting property to the conductive layer. All of these capabilities were highly appreciated. Thus, the usage for



some parts of the touch panel of mobile phones is expanding. As for the building materials used for the interior of residential houses, we have largely strengthened the color lineup of incombustible decorative boards by increasing the number of colors from 8 to 42.

Harmony with the Community and Contribution to Society

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> Information Disclosures of CSR

**DIC Graphics** 

Sun Chemical

Coordination / Cooperation

**National Projects** 

Printing technology for nano-printed circuits,

medical-related materials



#### **Electronics and Information Materials Business Operation**

In engineering plastics, we are acquiring good track records on our PPS resin: for example, it is used for electromagnetic valves and joints for water heaters in the household equipment industry, and it is also used as a material for parts of hybrid and electric cars. For inkjet inks, other than the water-based pigment types, we are focusing on the development of UV curing type inkjet ink for industrial applications, which become hardened by UV. In the area of hollow fiber membranes, we developed a large-size hollow fiber membrane deaeration module, which is compatible with the needs of building a larger ultrapure water supply system to be used for the manufacturing of semiconductors and liquid crystal displays.

### **Research Activities and Goals Thereof for FY 2010**

In April 2010, we reshuffled the R&D organization. We assembled all of the technical departments of the divisions under a newly established Technical Administrative Dept. We are focusing on a stepped-up contribution to corporate businesses by setting up our cooperative promotion framework, sharing technical information, and integrating technical resources, including activating personnel exchanges among technical departments.

Regarding the Corporate R&D Department, we will set up research subjects with good consideration of coordination with individual operating divisions and thereby heighten the commercialization probabilities of those subjects. On the other hand, concerning the field of next-generation technologies, we will make use of a partnership among industry, government and academia to search useful seeds of research and conduct basic studies.

To develop new products, DIC will promote a reduction

in the use of hazardous substances, the development of less hazardous products, recyclable products, production processes with higher safety and less waste, considering energy savings as well as the continued implementation of environmental assessments. DIC will comprehend the trend of statutory regulations and environmental measures of every country worldwide and implement product designs conforming to regulations governing chemicals in the pertinent country. We will continue to put our efforts into further enhancing our own awareness of the environmental harmony, and further improving the ratio of environment friendly products.

**Technical Administrative Division Technical service** Improvement Intellectual Property Dept. [Business Operation] research Technical Dept. New product Technical Planning Dept. development **Proposing research subjects** Corporate R&D Dept. Pioneering technology idao DIC Finechemicals Co., Ltd development 1 DIC R&D Dept. Objective

Investigation and basic research

VOICE

basic research

## Development of Epoxy Resin Products

Electronics / Information-related

materials, bio, etc.



Epoxy resin products are used for state-of-the-art areas, such as semiconductors, circuit substrates, airplanes, etc., and are always required to quickly and appropriately respond to the needs for higher functionality and environmental balance. The development of new products is conducted in the following flow: Understanding of market needs  $\rightarrow$  function design/molecular design (hypothesis)  $\rightarrow$  planning of a synthesis method  $\rightarrow$  trial synthesis/evaluation (verification of the hypothesis). Mostly, we experience continued failures. However, as long as we continue sticking to the task with passion and perseverance, we eventually start to gain a real feeling for technology advancement and see the goal.

DIC Berlin GmbH R&D Laboratory

Kawamura Institute of Chemical Research

Organic synthesis, photochemistry

polymer's physical properties

# **Report on the Environment, Safety, Health and Quality**

WEB http://www.dic.co.jp/en/csr/environment/index.html

The DIC Group recognizes that preserving the environment and securing safety should be at the core of our management as a chemical corporation. Through our activities on the environment, safety, health, and quality, the DIC Group aims to become a company with the capacity to respond to requests from society.

## Declaration to Support the Responsible Care Global Charter

In 1992, to preserve the environment and secure the safety and health of people, DIC established the "Principle and Policy for the Environment, Safety and Health." In 1995, DIC pledged to implement the precepts of "Responsible Care" in our everyday operations. In January 2006, as a member of global chemical corporations, DIC signed a declaration to support the Responsible Care Global Charter, promising to further strive to enhance the environment, safety, and health of people. Also, in order to implement this policy, we prepare an annual "Policy for the Environment, Safety and Quality," and translate it into English and Chinese in order to disseminate the policy across the entire DIC Group and to promote relevant activities.

#### Our Policy for the Environment, Safety and Quality for FY 2010

- Promote Responsible Care (RC) activities across the DIC Group. We set targets to reduce environmental impact by our
- operations and release the results of our reduction efforts to the public.
- Keep chemical information under proper management and disseminate the information to customers.
- Enhance the effectiveness of the activities and also streamline the organization.



# DIC's Responsible Care (RC) Promotion System and Our Efforts

Under our CSR committee, we work with the Responsible Care implementation organization and the Responsible Care audit and support organization as a pair of wheels to promote our Responsible Care activities.



DIC checks the implementation of DIC Group's activities relating to the environment, safety, health and chemical controls, based on the following "Responsible Care Codes."

- 1. Management System (all codes are applied commonly)
- 3. Process Safety and Disaster Prevention (prevention of fire, explosion, outflow of chemicals)
- 2. Environmental Protection (continuous reduction of emissions and production of chemical wastes)
- 4. Occupational Safety and Health (protecting the safety and health of workers) 5. Chemical and Product Safety (risk management of chemical products) 6. Distribution Safety (risk reduction in chemical distribution)
- 7. Dialogue with Society (communication with local communities relating to the environment, safety and health)

Supply Chain Management

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The Tokyo Plant, Gunma Plant and Kyushu Branch Office's Ink Production Department joined DIC Graphics in October 2009. Regarding the data shown in the Report on the Environment, Safety, Health and Quality, since we intended to compare with our goal for FY 2009, we included the performance data of these three sites into the DIC data. Also, regarding the Utsunomiya Plant, Yokohama Plant, Kansai Plant and Shiraoka Plant (4 sites), which have joined the DIC Group, as constituent arms of DIC Graphics, we included only their performance data on the second half of FY 2009 into the data of the DIC Group.

#### <Domestic Subsidiaries>

DIC Graphics Corporation, DIC Kitanihon Polymer Co., Ltd., DIC Kyushu Polymer Co., Ltd., DIC Kako, Inc., DIC Comfort Materials, Inc., DIC EP Corp., DIC Interior Co., Ltd., DIC Color Coating, Inc., DIC Colorants, Inc., DIC Precision Corp., DIC Engineering Corp., DIC Filtec, Inc., DIC Logitech Co., Ltd., DIC Plastics, Inc., DIC Molding, Inc., Topic Co., Ltd., Nippon Decor, Inc., Nihon Packaging Material Co., Ltd., Nippon Plastic Pallet Co., Fuji Label Co., Ltd., Seiko PMC Corp.

SUNDIC Inc., Shiga Plant, DIC Bayer Polymer Ltd., Japan Formalin Company, Inc., DH Material Inc., Sakai Plant

<Overseas Subsidiaries> Overseas subsidiaries of the DIC Group

\*As for the overseas subsidiaries of the DIC Group, please refer to the website, WEB http://www.dic.co.jp/en/csr/pdf/dic\_csr\_scope01.pdf

Information Disclosures of CSR

# RC Targets and Achievements of Major RC Activities

Items	Viewpoints and tasks of the approaches	Page to refer to	Targets for FY 2009
	Prevention of global warming and promotion of energy saving	P29 P30 P31	To bring the energy consumption per unit production to 89% (110.3 liters/ton) of that in FY 1990 (123.6 liters/ton).
Environmental conservation	Reduction of industrial waste (zero emissions) Reduction of volume of industrial waste disposed of as landfill Reduction of industrial waste discharged from production plants	►► P28	To Reduce the volume of industrial waste disposed of as landfill: DIC: 96 tons or less; DIC Group (domestic): 235 tons or less The volume of the industrial waste discharged from production plants: DIC: 20,071 tons DIC Group (domestic): 61,170 tons
Reduction of environmental impact caused	Promotion of recycling	_	To further promote the recycling of the waste discharged from production facilities of the domestic DIC Group by improving their recycle ratios.
Thy business activities /	Control of emissions of chemicals, Reduction of environmental emissions of the chemicals specified by the PRTR Law (354) plus those chemicals designated by the JCIA Voluntary Scheme (126)	►► P26 P27	DIC: 318 tons DIC Group (domestic): 577 tons
	Reduction of VOC released into the air	▶► <u>P27</u>	DIC: 304 tons (a reduction of 46% from FY 2000 level) DIC Group (domestic): 563 tons (a reduction of 71% from the base year)
Process Safety and fire prevention/	Risk assessment	►► P32	To familiarize the employees with risk assessment.
Occupational safety and health	Promotion of sharing of information on environment and safety between DIC and Group companies; both domestic and overseas	►► P33	Accident/injury analysis
Logistics/	Reduction of GHG emissions caused by transportation	►► P29	To promote energy saving measures related to freight transportation to ensure an annual reduction of 1% in terms of the energy consumption per unit transportation.
Safety	Management of transportation safety of chemicals	►► P33	To make both chartered and consolidated cargo carriers carry "yellow cards" to address an emergency during transportation.
	Promotion of green procurement	►► P34	To establish an internal system suited to promoting CIRIUS and continuously operating it in a stable manner in order to further enhance the control of trace impurities contained in raw materials and products.
Chemicals/ Product safety	Measures to cope with GHS (measures for the requirement to disclose information on chemicals contained in products)	►► P34	To prepare MSDS for all of our chemical products, and distribute them through our website.
	Measures to cope with overseas regulations (e.g., the REACH regulation in the EU)	_	To prepare for the main registration to be made in FY 2010 in compliance with the REACH regulation.
Communications with society	Report on RC activities and site reports of each plant	►► P44	To make public the information on our RC activities through our CSR report and DIC's website. In addition, to promote risk communications between DIC's production sites and local communities through site reports.
Quality management		NN D25	To improve customer satisfaction by using ISO9001 and other QMS tools to ensure product quality
(customer satisfaction)	Securing of quality	P35	To further improve the product design capability to satisfy customer requirements
Provision of support to the management for the environment and	Promotion of the environmental and safety activities at affiliated companies in the Asian and Oceanian regions	►► P33	To hold a safety meeting on a global basis, including China and Southeast Asia to promote the sharing of safety awareness and information; To hold a meeting of environment and safety staff in respective regions (China, Southeast Asia); To implement a safety audit of subsidiaries in South Asia (including India)
safety conducted by overseas Group companies	Environmental/safety data	►► P33	To go ahead with identifying the actual state of environmental impact and supporting related activities to reduce them.

 $^{\ast}\mbox{Regarding the items, for which no scope is given, such items refer to DIC.$ 

Human Resource Harmony with the Community and Contribution to Society

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Compliance

BCM (Business Continuity Management)

Information Security

The Reliability of Financial Reporting

Supply Chain Management

New Technology Development and Value Creation

The Environment, Safety, Health and Quality

Our Business Models Focused on Customer Satisfaction

Human Resource Management

Harmony with the Community and Contribution to Society

Information Disclosures of CSR

Achievements in FY 2009	Evaluation	Targets for FY 2010
Actual energy consumption per unit production: 118.0 liters/ton. 7% of the target was missed. On the other hand, the CO <sub>2</sub> emissions decreased by 2% as compared with the previous year. (FY 2008: 211,246 tons $\rightarrow$ FY 2009: 207,801 tons)	*	To bring the energy consumption per unit production down to 94% (116.2 liters/ton) of that in FY 1990. (-2% as compared with the previous year)
To Reduce the volume of industrial waste disposed of as landfill: DIC: 92 tons DIC Group (domestic): 232 tons The volume of the industrial waste discharged from production plants: DIC: 19,939 tons DIC Group (domestic): 62,565 tons	***	To Reduce the volume of industrial waste disposed of as landfill: DIC: 69 tons DIC Group (domestic): 209 tons The volume of the industrial waste discharged from production plants: DIC: 17,345 tons DIC Group (domestic): 65,267 tons
Recycling rate DIC Group (domestic): An improvement of 1% from the previous fiscal year (88%) DIC: An improvement of 1% from the previous fiscal year (77%) Domestic subsidiaries An improvement of 0.4% from the previous fiscal year (93%)	***	To continue promoting recycling activities in the domestic DIC Group
DIC: 351 tons (An increase of 33 tons from the target) <actual accomplishment in previous year: 312 tons&gt; DIC Group (domestic): 660 tons (An increase of 83 tons from the target) <actual 670="" accomplishment="" in="" previous="" tons="" year:=""></actual></actual 	**	DIC :268 tons DIC Group (domestic): 623 tons
DIC: 338 tons (An increase of 34 tons from the target) <actual 298="" accomplishment="" in="" previous="" tons="" year:=""> DIC Group (domestic): 646 tons (An increase of 83 tons from the target) <actual 655="" accomplishment="" in="" previous="" tons="" year:=""></actual></actual>	**	DIC :255 tons DIC Group (domestic): 610 tons
We gave guidance about contents to two workplaces of DIC and four affiliated companies, and implemented familiarization activities.	**	To give guidance about the evaluation of a risk assessment associated with capital investment. To conduct an accident/injury analysis and provide relevant information in a timely manner.
We analyzed accidents/injuries based on accident/injury investigation reports and prepared graphs (visualization). Then, we posted such output on the Intranet at the beginning of every month, in an attempt to promote awareness.	***	To hold a safety meeting regarding the setting of preventive measures against recurrence of accidents/injuries.
The energy consumption per unit production was improved by 4% as compared with the previous year.	***	To continue taking measures for the energy conservation during transportation, and promote an annual reduction of 1% in the energy consumption per unit of transportation.
We have compiled yellow cards and requested container trucks, lorries, and freight trucks in general, including those with consolidated cargo, to carry it.	***	To further promote the same measures.
We established the CIRIUS system and prepared it for operation smoothly, even covering those affiliated companies that split from DIC in FY 2009. Thus, we enhanced our control of raw materials.	***	To put the information obtained on raw materials into CIRIUS in accordance with the DIC Group Green Procurement Guidelines, and keep the information under control.
We prepared MSDS for our entire chemical products, and we are promoting MSDS distribution through the Internet. Regarding the notification of chemicals required by the new PRTR law, we started to notify our business partners, preparing a cover letter for sending out MSDS from July 2009.	***	To continue preparing MSDS for all the chemical products and delivering them through the website.
We prepared ourselves so that our registration required by the REACH regulation can be completed by November 2010.	***	To make a main registration for the REACH regulation in 2010, without fail. Also, provide support to the CLP registration in the EU, and establish an environment needed for securing the registration on existing chemicals and for continuing our business in Taiwan.
Our RC activities were made public through CSR reports and on DIC's website. Also, site reports were prepared by the individual production plants of DIC and these materials were used for explaining our activities to people on a plant tour.	***	To further promote the same measures.
In order to check whether or not each production plant is implementing QMS activities properly and whether or not customer satisfaction has been improving as an outcome of the implemented QMS activities, audits were conducted once a year by the responsible department (RC dept. and divisions responsible). Also, follow-up audits were carried out on an as needed basis.	***	In order to secure the product quality, to improve customer satisfaction by using ISO9001 and other QMS tools. To better understand QMS issues at dividence for during the subscripts and the support to
We confirmed that customer requirements (including matters related to social demands and requirements) were input at the designing stage of the product without fail by conducting an audit and made reviews as needed.	**	improvement activities: Thereby, to promote the improvement of quality management activities.
We had a meeting of safety personnel from the South-eastern Asian region in February 2010. The personnel responsible for safety in the China region also attended. Thus, we went ahead with the sharing of safety awareness and information.	***	To provide support to the environmental quality activities taken at overseas affiliated companies (e.g., establishing an information network on environment and safety, training of personnel responsible, etc.).
Information on environmental impact, such as CO <sub>2</sub> , industrial waste as well as on safety was gathered from overseas affiliated companies of the Sun Chemical Group, DIC Asia/Pacific and DIC China.	**	To prepare mid-term and long-term plans for the DIC Group (overseas affiliated companies) for the reduction of environmental impact (waste and GHG).

\*Evaluation symbols:  $\star \star \star \dots$ Excellent:  $\star \star \dots$ Good:  $\star \dots$ Improvement needed

\*As for the subjects shown below, which were covered by the CSR Report 2009, please refer to the website: Prevention of soil/groundwater from pollution, countermeasures against PCB, prevention of ozone layer destruction, asbestos, reporting of accidents/injuries without fail, training of experts on raw material/product safety.

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# Reducing Emissions of Chemicals into the Environment

# **Chemicals DIC Aims to Reduce**

Chemical corporations are expected to pay due considerations to prevent emissions of chemicals into the environment in their business operations, since they deal with various chemicals in large quantities when compared with those in other industries.

DIC has been taking measures since FY 2000 to reduce the emissions of 480 chemicals released into the environment (more specifically, the air, water and soil), whereas the domestic DIC Group companies have been taking the same measures since FY 2005. These 480 chemicals subject to our measures are made up of by the following: 354 chemicals specified under Japan's PRTR Law\* and 126 chemicals added as voluntary management items by the Japan Chemical Industry Association (JCIA).

Among 480 chemicals DIC aims to reduce, the following are the numbers of chemicals DIC used or produced in amounts of 1 ton or more in FY 2009: 120 chemicals for DIC as a whole and 136 for the total of the domestic DIC Group.

The amount of emissions released from the domestic DIC Group in FY 2009 was reduced by 10 tons (2%) as compared with that in the previous year. However, due to the results obtained from a reexamination made to the facility elimination rates (e.g., solvent recovery systems) at some of the sites, the goals were not fulfilled.

The performance of FY 2009 includes an actual reduction of 10 tons achieved by the four sites, which newly joined DIC Graphics in October 2009. (The performance of FY 2008 does not reflect the achievement made by those four sites.)

The DIC Group is committed to introducing the necessary facilities and taking possible countermeasures in our

Amount of emissions of the 480 targeted substances
<chemicals (126)="" +="" chemicals="" from="" jcia="" law="" prtr="" scheme="" specified="" under="" voluntary=""></chemicals>

DIC Total emissions into the air: 338 tons Emissions into water: 13 tons Emissions into soil: 0 tons	351 tons	An increase of <b>12%</b> (39 tons) as compared with the previous year
DIC Group companies (Domestic) Total emissions into the air: 646 tons Emissions into water: 14 tons Emissions into soil: 0 tons	660 tons	A decrease of 2% (10 tons) as compared with the provious year

operations as much as possible to reduce the emissions of these chemicals into the atmosphere and prevent environmental pollution.

Changes in the Amount of Emissions of the 480 Targeted Substances



DIC: Based on previous JCIA standards (non-consolidated) (284 chemicals)
 DIC: Based on PRTR Law and current JCIA standards (non-consolidated) (480 chemicals)
 DIC and domestic DIC Group companies: Based on PRTR Law and current JCIA standards (480 chemicals)

Shown below are the chemicals whose amount of emissions released by DIC and domestic DIC Group companies during FY 2009 was 10 tons or greater.

(Tons)

# Chemicals with Emissions Exceeding 10 Tons in FY 2008 among the 480 Targeted Substances

	-			
	DI	C	DIC Group (domestic)	
Chemical name	Volume manufactured/ used	Volume emitted	Volume manufactured/ used	Volume emitted
Ethyl acetate	14,566	109	15,737	225
Methyl ethylketone	9,339	57	10,369	139
Toluene	10,347	66	12,808	129
Acetone	756	10	831	35
Xylene	4,609	22	5,043	24
Propyl alcohol	3,610	15	4,006	18
Styrene	128,155	11	132,043	17
Butyl alcohol	4,505	10	4,517	10
Others	202,652	52	236,530	64
Total	378,538	351	421,884	660

\* PRTR Law: The PRTR Law is the popular name for the Law Concerning the Reporting, etc. of the Releases of Specific Chemical Substances to the Environment and Promoting Improvement in Their Management. The law, which went into effect in FY 1999, required companies meeting certain standards to assess the release and transfer of PRTR chemicals from FY 2001 and report results to the government from FY 2002. DIC has assessed the release of PRTR chemicals and aggregated and disseminated data in accordance with the law retroactive to 1999.

# Reduction of Environmental Impact to the Air, Water and Soil

# Responding to Regulations for Volatile Organic Compound (VOC) Emissions

The Revised Air Pollution Control Law was put into force effective April 1, 2006, and the regulation of VOC emissions was started. As an outline of the VOC emissions restriction program under this law, a goal was shown: "Based on a best

mix between the VOC emission regulation and the voluntary commitment by the industry, we will reduce VOC emissions released from fixed sources, such as production plants, by 30% or so by FY 2010 as compared with FY 2000."

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As for the domestic DIC Group, 98% of its emissions are released into air. Deeming these emissions to be of VOC, we established in FY 2007 a voluntary emission reduction target and provided necessary equipment/systems and operational countermeasures: Thus, we have been working on the reduction of emissions. In consequence, we accomplished the goal in FY 2008, ahead of the schedule. Even after that, we are pushing for a further reduction.

In FY 2009, we achieved a reduction of 9 tons (1%) as compared with the previous year.

#### Changes in Air Emissions of VOC of 480 Substances



## **Compliance with Regulations for Dioxins Emissions**

The domestic DIC Group monitors the volumes of Dioxin emissions from our facilities every year. As of the end of FY 2009, DIC owned 6 waste combustion facilities. Though all 6 facilities are "specified facilities" under Japan's Law Concerning Special Measures Against Dioxins, both exhaust gas and wastewater emission volumes from these facilities were below criterion values specified by the regulations. We will continue to monitor Dioxin emissions from these facilities to secure our compliance with the regulations.

DIC Comfort Materials, Inc. removed its waste incineration facility in August 2009, in compliance with laws.

		Exhau	st Gas	Exhaust Water	
	capacity	Standard (ng-TEQ/Nm <sup>3</sup> )	Emissions recorded in FY 2009 (ng-TEQ/Nm <sup>3</sup> )	Standard (ng-TEQ/Nm <sup>3</sup> )	Emissions recorded in FY 2009 (ng-TEQ/Nm <sup>3</sup> )
DIC (Chiba Plant)	Approx. 3t/h	5	0.53	10	0.045
DIC (Hokuriku Plant)	Approx. 0.3t/h	5	< 0.0001	10	0.0002
DIC Interior Co., Ltd.	Approx. 0.1t/h	10	0.59	_	_
DIC Kitanihon Polymer Co., Ltd. (Hokkaido Plant)	Approx. 0.2t/h	10	0.12	—	_
DIC Kitanihon Polymer Co., Ltd. (Tohoku Plant)	Approx. 0.2t/h	10	0.009	_	_
Seiko PMC Corp. (Harima Plant)	Approx. 0.2t/h	10	< 0.07	_	_

#### Halogenated Dioxins Emission Control Standards Applicable to Domestic DIC Group Incinerators

# Emissions of SOx, NOx, and Effluent Impact Substances (COD: Chemical Oxygen Demand)

DIC has been working to reduce SOx, NOx, and COD emissions from FY 1990 levels. We will further continue to promote the reduction of emissions, including a shift in fuel source, from heavy oil to city gas.

#### SOx Emission Volume



#### NOx Emission Volume



DIC DIC and domestic DIC Group companies

#### **COD Emission Volume**



# Pollution Investigation of Soil and Groundwater

Responding to the Soil Contamination Control Law, DIC is conducting soil assessments and implementing required countermeasures. When we acquire plants overseas or invest in overseas businesses, DIC references Japan's Soil Contamination Control Law and each local country's related regulations, making soil assessments by applying the stricter regulations of the two. We also conduct advance risk assessments for the environment and safety of the related overseas companies in the investment.

# Reduction of Industrial Waste

Reduction in the volume of industrial waste disposed of as landfill and the volume of industrial waste discharged from production plants

DIC had worked on zero-emission activities since FY 2001, with a target to reduce the volume of industrial waste disposed of as landfill to less than 5% (370 tons) of FY 1999 levels by the end of FY 2007. Although the abovementioned goal was successfully achieved at the end of FY 2006, one year ahead of the schedule, we are still continuing to implement zero-emission activities at each site and also encouraging the effort of expanding the activity area across the DIC Group by laterally spreading DIC's zero emission activities to our subsidiary companies. The zero emission goals of DIC and the domestic DIC Group for FY 2009 in terms of the volume of industrial waste disposed of as landfill were successfully achieved through the implementation of zero emission activities without making any fuss. Major contributing factors involved in this successful accomplishment include, for example, a reduction in the residue rate (5% $\rightarrow$ 0%) achieved for plastic wastes by the use of a pyrolysis gasification and melting process at the Sakai Plant, solidifying of fine particles and then converting solidified matters into fuel at the Suita Plant, conversion of sludge into fuel, and so forth.

Among the domestic DIC Group companies, DIC Kako Inc. and Seiko PMC Corporation succeeded in recycling waste plastics into reconditioned sand or RPF, respectively, and these changes largely contributed to the accomplishment

#### of the goals.

In FY 2010, we will set out a new reduction target and continue promoting our zero emission activities.

As for the volume of industrial wastes discharged from our production plants during FY 2009, DIC reduced it by 4,584 tons (19%) as compared with the previous year, while the domestic DIC Group reduced it by 2,584 tons (4%).

Regarding FY 2010, we expect that the production volume of the DIC Group as a whole will increase and the volume of industrial wastes discharged from some of the domestic subsidiaries will substantially increase as the nation's economic recovery continues. However, we shall continuously set out a reduction goal and continue to promote further reductions.





# TOPICS

#### **Responsible Care Global Charter Certificate**



The Responsible Care Leadership Group (RCLG) of the International Council of Chemical Associations (ICCA) established the Responsible Care Global Charter in 2006 and asked member country's businesses to put their signatures to pledge their support and implement this Global Charter.

RCLG set as their first goal the obtainment of signatures from the CEOs of more than 85% of the top 115 companies worldwide. They succeeded in achieving this goal in March 2010. Signatures were obtained from 160 companies, including those other than the top 115 companies (in Japan, signatures were obtained from 32 companies, including all of those listed among the top 115 companies). Only in Japan, the rate of signatures obtained from those companies initially asked to sign reached 100%. Thus, the contribution made by the Japanese companies was highly appreciated by ICCA.

As one of the dedicated companies mentioned above, DIC received a Responsible Care Global Charter Certificate from RCLG.

Responsible Care Global Charter Certificate

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Harmony with the Community and Contribution to Society The DIC Group is promoting the reduction of  $CO_2$  emissions in efforts to prevent global warming. This activity goes hand-in-hand with the plan laid out for the reduction of energy consumption, which is the major emission source. We are promoting energy conservation activities in line with the goal of the voluntary action plan (i.e., the average amount of emissions during a period between 2008 and 2012 to be reduced to a level of 80% or lower as compared with FY 1990) formulated by the Japan Chemical Industry Association (JCIA). In addition to embarking on the planning of a long-term reduction target, DIC has launched an Energy Conservation and Global Warming Prevention Working Group and we are promoting specific reduction activities.

# **Energy Conservation**

As for the energy conservation activities of DIC for FY 2009, we planned to shorten the time period needed for production processing at each manufacturing site and to optimize pressures, temperatures and facility capacities, and we implemented these tasks almost as scheduled. However, the energy consumption index per unit production showed 95, against the target 89. Thus, we failed to achieve the goal.

As for the contributory factors for this failure, various aspects came into play: the operation rate of some of the manufacturing sites did not increase sufficiently since the general economy did not recover strongly enough from the recent recession; the operation of old biomass boilers was discontinued due to their aging (consequently, the consumption of heavy oil as an alternative energy increased); the production was partly switched to more value-added products and their production was increased. In FY 2010, we will further continue to re-examine the production process and aim to decrease the energy consumption per unit production<sup>\*1</sup> by using clean energy (e.g., wind power generation, use of carbon-neutral biomass boilers, etc.). (For details, see  $\rightarrow P24$  P25)

Energy Consumption (Crude Oil Equivalent) and Energy Consumption Index



Energy consumption (DIC) (left axis)

Energy consumption (DIC and domestic DIC Group companies) (left axis)

Energy consumption index (DIC) (right axis)
 Target energy consumption index per unit production (right axis)

\*Renewable energy is not included in the above figures.

# CO<sub>2</sub> Emissions

In FY 2008, we started full-scale operation of boilers to which carbon-neutral wood chips are fed as fuel. In FY 2009, we put two 2,300-kW wind power generators into operation. In FY 2010, we will further re-examine the manufacturing process and put our effort into reducing  $CO_2$  emissions





CO2 emissions (DIC and domestic DIC Group companies) (left axis Energy consumption index (DIC) (right axis) associated with energy consumption. (For details, see **P24 P25**)

# The Effects of Cool Biz

DIC is working on reducing energy consumption by setting our air conditioners at higher temperatures. In FY 2009, at the head office, Osaka Branch office and Nagoya Branch office building, we achieved a reduction in energy consumption equivalent to 6 kl (2%) of crude oil as compared with the previous year. In FY 2010, we will further promote energy conservation activities also in office work areas by extending the time period of Cool Biz and spreading the initiative of switching lights off during the lunch break.

Our Measures to Preserve the Environment in Physical Distribution

The total volume of transportation carried out by DIC during FY 2009 was 184.31 million t/km, a reduction of 6% as compared with the previous year. By adopting an enhanced mass transportation means (i.e., a modal shift), such as using JR containers and transporting trailers by ship, DIC is keenly involved in reducing the amount of energy used for transportation and  $CO_2$  emissions. The modal shift adopted during FY 2009 had a share of 7% in the total transportation volume. In consequence, we reduced the volume of  $CO_2$  emissions by 1,680 tons as compared with the case in which the same amount of transportation was carried out by means of trucks.

Including continued promotion of the modal shift, we will further promote the reduction of energy used for transportation by encouraging echo-driving, selecting those carriers who use clean-energy vehicles and so forth.

DIC is providing environmental seminars on echo-driving to contract transport operators. The rate of the contract transport operators who obtained green-management certificates<sup>\*2</sup> during FY 2009 increased by 1.2 points (to 32%) as compared with the previous year. We will further promote these activities.

CO2 Emissions Generated by the Distribution Arm and History of Energy Consumption Index per Unit Production



- ♦ Target energy consumption index per unit production (right axis)
- \*1 Energy consumption per unit production: Energy used (converted into crude oil, kl)/volume of production made by the production plant (1,000 tons)
- \*2 Green management certificate: the Foundation for Promoting Personal Mobility and Ecological Transportation evaluates the green management levels of transport operators, including those for trucks, buses, and taxis, and provides certificates for their business operations with reduced environmental impact.

# **Energy Conservation Activities at Various Sites Worldwide**

By Promoting the Visualization of Energy Consumption, Energy Conservation Activities Are Largely Accelerated



One of the important points when promoting energy conservation is how to gain an accurate understanding of the status of energy usage at the facilities in question.

At the Hokuriku Plant, an energy monitoring system, which is capable of controlling and analyzing energy consumption, was introduced in June 2009. Data obtained from various measuring instruments are transmitted through the Intranet to the Power Dept.

The introduction of this system has drastically changed the way energy conservation activities must be implemented.

The amount of energy and utilities (i.e., electricity, steam and nitrogen generated by the Power Dept.) consumed at each manufacturing site is displayed in graphs in real time, and therefore current data can be compared with those in the past very easily. Thus, it is now possible to verify energy loss and waste, leading to a sizable energy conservation effect.

For example, regarding the countermeasures to be taken for an excessive electricity consumption during a peak summer season, when air conditioners installed at offices and lowtemperature warehouses have to run at full capacity, we used to rely only on an electric-demand meter installed at the Power Dept. before. Now, the situation has drastically changed; we are implementing energy conservation activities across the production plant. The results of the energy conservation

actions taken by us are instantaneously made visible to anyone through the Intranet. So, this plays a powerful role in motivating individuals toward energy conservation at the production site. However, the installation of this type of system is not always the answer to any expectation of an energy conservation effect. It is critically important to continuously implement energy conservation activities by making use of this system. In the case of the Hokuriku Plant, energy conservation promotion members are selected from each department/ section, they attend a meeting every month and their activities are published in the form of a simplistic medium to convey information (called Energy Conservation Kawaraban). Thus, by making use of these visualized data offered by this Energy Conservation Kawaraban, we are promoting energy conservation activities in an enjoyable and easy manner.



Energy monitoring system

Energy Conservation Kawaraban

# Making Carbon Dioxide (CO<sub>2</sub>) Emissions More Visible **Carbon Footprint Project**

USA Sun Chemical

In order to analyze and manage carbon footprints of its own business activities, the Sun Chemical Group implemented a Carbon Footprint Project in cooperation with a consulting firm.

In this project, we tried to make carbon dioxide (CO<sub>2</sub>) emissions more visible by computing gate-to-gate carbon footprints, where, as compared with the computation to be made for the entire life cycle of a product, we applied the computation to a limited portion, from the production within our group to the transportation and sales. This computation was conducted for eight products selected from seven different production sites in the United States and Europe.

When customers are provided with carbon footprint information of our products, they are enabled to choose products based on the sustainable growth information on them, and at the same time we are also enabled to promote our own sustainable growth program: thus, the whole of this cycle leads us to a further effort of improving customer satisfaction.

Since this project has brought us a clear understanding of important aspects of energy reduction efficiency, we will continue to improve energy efficiency and make our transportation and sales systems more efficient.

\*In Japan, the Japan Printing Ink Makers Association, to which the DIC Group belongs, drafted product category rules (PCRs) to be applied to printing inks in FY 2009, and the association is promoting computation of carbon footprints.

Carbon footprint created by producing, transporting and selling a product:



#### Carbon footprints of various products:





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## **Reduction in Thermal Energy and Electricity Consumption**

Nippon Plastic Pallet's production plant located in Ueda

produces plastic pallets. Using large injection molding

machines, they heat and melt thermoplastic resin, inject

molten resin, and allow the resin to cool down and solidify:

Plastic pallets are thus produced, and a large amount of

As part of the effort of reducing electricity consumption (electricity consumption per 1 kg of pallet weight),

conventional rotary beacon lights and guide lights were replaced with LED lights in the end of FY 2009. The heater and the cooling piping of the injection molding machine were provided with thermal insulation covers,

and an inverter was introduced to the motor used for the

The rate of energy conservation effect (crude oil

Deging DIC Synthetic Resins, which produces solid resin

for printing ink, uses steam at a rate of 1.5 tons/hour, with

a temperature of 180°C, for the heating/keeping warm of

the raw material and the production line. Also, Zhaoqing

DIC Gum Rosins, Ltd., which produces rosin, i.e., the raw

material to be used for producing the resin mentioned above,

uses steam at a rate of 2 tons per hour, with a temperature of

Although these companies used to use diesel and heavy

oils for generating steam before, in order to cope with

increasingly unstable prices of the fuel oils, reduce the

emissions released into the environment, such as sulfur

oxides (SOx), nitrogen oxides (NOx) and waste water-

loading substances (COD), and further promote energy

conservation activities, we introduced biomass boilers, in

350°C, in order to produce refined rosin from pine resin.

water feed pump in the re-cooling water system.

electricity is consumed by the production facilities.

Nippon Plastic Pallet Corporation

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power-receiving capacity, so we have been keenly working on countermeasures to cope with this excessive electricity demand as well as a reduction in electricity consumption. When five sets of three-roll mills, which were used for filling

offset ink, are replaced with a fully automated filling system, which consists of an electric motor and a pump, the rated electric power capacity of one unit of equipment is expected to decrease from 22 kW to 2 kW, merely one tenth. So, the replacement of these five filling mills with a new system makes possible a monthly energy saving of 20,000 kWh, and it also cuts down the required amount of manpower to a half.

This plant monthly produces approximately 500 tons of solvent-type liquid ink, and the cleaning work of the production facility generates approximately 300 liters of waste solvent

FY 2009, which are fed carbon-neutral scrap wood as a fuel, taking advantage of the local conditions of the Deging region, where the timber industry is active.

Due to the boilers newly introduced, the annual consumption of the energy derived from fossil fuels was reduced by 53% (crude oil equivalent). Also, the shift in fuel brought the

emissions of SOx and NOx down to zero. So, we are expecting a sizable effect: Namely, an annual amount of about 2,800 tons of CO<sub>2</sub> emissions can be reduced.



**Biomass boiler** 



every day. The waste solvent used to be disposed of as industrial waste by an outside contractor. Due to the current introduction of a solvent recovery system, it has become possible to recover 60% of the entire solvent. This outcome can further lead to a reduction in treatment cost.



The appearance of DIC Malaysia



equivalent) achieved by this facility improvement work

is 0.3% for the entire production plant and 14% for the

modified portion of the plant. The effect of this effort was

recognized by Nagano Prefecture and this project was

granted a subsidy from the Subsidy Program of Nagano

Prefecture's Energy Conservation Initiative for FY 2009.

LED-type rotary beacon light

Thermal insulation cover installed for the injection molding machine

# Reduction in the consumption of the energy derived from fossil fuels



DIC Malaysia



**Reduction in Electricity Consumption and Waste Generation** 



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# Our Achievements in Occupational Safety and Health

# Our Activities for Safety and Health in FY 2009

In DIC, by providing Security and Disaster Prevention Codes and Occupational Safety and Health Codes in the framework of our Responsible Care Activity Policy for each fiscal year, we post specific goals of our efforts for this fiscal year and undertake the task of securing and enhancing the occupational safety and health.

# Security and Disaster Prevention Codes and Occupational Safety and Health Codes for FY 2009

- 1. Training for securing safety and transferring skills to the next generation
- 2. Reporting, without fail, on the occurrence of an accident/injury
- 3. Risk assessment

In FY 2009, we implemented not only regular compliance audits on the environment, safety and quality but also safety management support activities at four of DIC's plants and five domestic affiliated companies in order to boost the occupational safety and health management.

In order to secure the safety and health of employees, we compiled and published the following employee training materials and prepared English and Chinese versions of those materials on an as needed basis, so that the employees can gain a thorough understanding of safety and health issues facing the entire DIC Group, including overseas subsidiaries.

## **Materials Prepared on Safety and Health**

Safety Gear-Wearing Manual Safety Basic Actions (4<sup>th</sup> edition revised) Accident/Injury Cases in Technical Departments and A Collection of *Hiyari-Hatto* Cases

#### **Occupational Accident Frequency Rate** (Frequency Rate) 7.00 6.00 5.00 4.00 3.00 2.00 1.00 0.00 89 90 91 92 93 94 95 96 97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 DIC Chemical Industry Manufacturing Industry

\*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.

An occupational accident frequency rate of 1.0, for example, corresponds to one accident per year in a workplace with 500 employees.

# The Status of Occupational Injury

The number of cases of occupational injury, which resulted in employees' absence from work, at DIC in FY 2009 was three (three cases in FY 2008), and the occupational accident frequency rate was 0.45 (0.38 in FY 2008), while the severity rate was 0.029 (0.044 in FY 2008). As for the entire domestic DIC Group, the number of lost-work-time injuries in FY 2009 was 13 (8 in FY 2008). The occupational accident frequency rate of the domestic DIC Group in FY 2009 was 1.25, and the severity rate was 0.036.

Although the number of injuries increased in FY 2009 as compared with the previous year, the severity rate decreased. This means that the occupational injuries as a whole were minor. Looking at an increase in the number of injuries seriously, we at the DIC Group are further enhancing our effort of campaigning safety management activities towards FY 2010.

In order for the DIC group to further promote the safety activities, continuously since FY 2008, we added a DART (Days Away, Restricted, or Transferred) Rate\*<sup>1</sup>, the index commonly used in various countries.

The DART Rate of DIC in FY 2009 was 20.0, with 22.1 for the domestic DIC group, 21.7 for the overseas DIC Group and 21.8 for the overall DIC Group.



### Occupational Accident Severity Rate



\*Occupational Accident Severity Rate The occupational accident severity rate is the number of work days lost per 1,000 hours of labor.

> Calculation: <u>Number of days lost</u> × 1,000 Total work hours

An occupational accident severity rate of 0.1, for example, corresponds to 100 work days lost per year in a workplace with 500 employees.

Note:

 "Chemical Industry" and "Manufacturing Industry" include all companies in the chemical industry and the manufacturing industry, respectively, as defined by the Ministry of Health, Labour and Welfare for the purposes of its Occupational Safety and Health Statistics.
 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 (January 1-December 31).

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# Goals for Our Effort in FY 2010

In FY 2010, by promoting safety activities sticking to the basics positively, we will further strive to train our employees regarding an effective climate for safety and facility maintenance know-hows and create a mechanism to secure their safety. Understanding that it is the primary step of safety measures to share the information on an accident or injuries, which have occurred, we promote the lateral development of our measures for preventing accidents and injuries by thoroughly analyzing reported cases.

Specifically, in FY 2010, we will conduct a follow-up audit in order to confirm the current status of the improvement items which were pointed out by the periodical audit in FY 2009. We will also carry out the following activities at DIC's plants and domestic affiliated companies: Safety management support activities, accident case study seminars for those in charge of safety, having the activities of predicting risks take root and promoting them, preparation of training materials in a video/animation format and sharing of such training videos, and promotion of on-site training laterally, etc.

## **Risk and Hazard Assessment and Education**

Aiming to achieve safety and reliability, as a chemical material manufacturer, DIC conducts environment assessments, while promoting the development of recyclable, safer, energy-saving products with less hazardous substances and less waste.

To ensure safe production facilities with reliability, DIC newly established the DIC Risk Assessment Guidelines for Mechanical Equipment. When formulating facility investment plans and renovating existing facilities, we additionally use the risk assessment method, PSM (Process Safety Management), together with the new guidelines.

We also provide educational programs regularly to our employees concerning the safety and handling of chemicals, by utilizing safety guidelines for technology and research departments, MSDS, safety basic actions, and accident case studies.

# **Our Measures in Distribution**

To cope with emergencies while transporting chemicals, we provide Yellow Card\*2, not only to freight-exclusive vehicles such as containers and tank trucks, but also to general freight vehicles which carry mixed loads. For the transportation of DIC products, we use special containers that comply with transport-related regulations such as the Fire Defense Law and United Nations Standards.

# "Safety Tree Rings"

Safety Tree Rings is DIC's safety commendation system to honor our plants, R&D facilities and part of our domestic Group companies accomplishing no occupational accidents with lost work days for a full year.

Those achieving no occupational accidents will be given an annual growth ring to their Safety 20 silver rings for 20 years without occupational accidents. When 20 silver rings are completed, from the 21st year, a gold ring will replace each silver ring for each additional year without any occupational accident involving lost work days.



### Major Achievements of "Safety Tree Rings" (more than 5 rings)

Yokkaichi Plant: 5 rings, Central Research Laboratories: 9 rings, Suita Plant: 10 rings, Tokyo Plant: 12 rings, Kashima Plant: 12 rings, DIC Kitanihon Polymer Co., Ltd., Hokkaido Plant: 16 rings, Hokuriku Plant: 20 rings (of which, 16 in gold), Kyushu Branch: 21 rings (of which, 20 in gold)

Improvement of Overseas Environment and Safety System

The second Asia Regional Safety Meeting took place in Bangkok, Thailand, on February 23 and 24, 2010, and personnel in charge of safety working for affiliated companies got together. Representatives from all the affiliated companies in Asia gathered there, including those responsible for EHS in China and DIC's CSR Promotion Dept. The total number of participants was 30, from 17 companies. The current status of safety management was explained and various problems were reported.



\*2 Yellow Card: Relative to a voluntary activity promoted by the Japan Chemical Industry Association (JCIA). This card indicates contact information and the appropriate actions to be taken at the time of an accident during the transportation of chemicals for carriers, firefighters and police officers. All carriers of chemicals are obliged to carry this card.

# Environmental Cost/Safety and Health Costs

# **Environment and Safety Costs**

DIC has been publishing our environment and safety costs since FY 1998, obtained from our own calculation methods. From FY 2000, to calculate our environment costs (investments and expenses), we have been referencing the Preparation for the Establishment of an Environmental Accounting System (reported in 2000) by Japanese Ministry of Environment. For the investment amounts and expenses for safety, health, and disaster prevention, we will continue to use our own calculation methods and disclose these costs in our operations.

# (1) Environment Costs in FY 2009

In FY 2009, environment-related capital investment was 275 million yen, as total domestic DIC Group was 313 million yen.

As for environment-related expenses, DIC spent a total of 10.216 billion yen, total domestic DIC Group was 10.792 billion yen. (For details, see >> P47)

## (2) Safety and Health-Related Costs in FY 2009

In FY 2009, safety-and health-related capital investment was 121 million yen, as total domestic DIC Group was 143 million yen.

As for safety- and health-related expenses, DIC spent a total of 899 million yen, as total domestic DIC Group was 1.112 billion yen. (For details, see >> P47)

# Management of Information on Chemicals Involved in Our Products

# Providing Proper Information about Our Products

In DIC, making use of the chemical information comprehensive management system (CIRIUS), which was established as an internal IT tool, we are working on the information management of chemicals for our raw materials and products. We provide customers, including other stakeholders, with information on a wide range of subjects, such as Material Safety Data Sheet (MSDS), those chemicals which are subject to strict management, and so forth. We are determined to properly prepare the MSDS by describing without fail the safe manner of handling our products and the proper manner of their disposal, and we are exerting our maximum effort so that neither occupational injuries nor environmental pollutions will occur due to our products.

This system automatically checks domestic regulations and prepares uniform and highly reliable MSDS. Now, even minor components included in raw materials can be checked by this system. The information of minor components included in our products will be indicated not only on MSDS, but also on MSDSplus\*1 and AIS\*2.

Regarding the Revised Chemical Substances Control Law, which was put into force effective April 1, 2010, we are voicing our standpoints of private companies through industry group activities toward the authorities concerned. Also, in order to cope with the two-step enforcement of the law, effective April 1, 2011, we have started to establish a system for reporting numbers on the manufacturing, importation and shipping.

CIRIUS has a function to prepare MSDS automatically.

# A Speech at the China National Chemical Information Center (CNCIC)

# 合体 在 SIEF 中保持活跃 本 DIC 株式会社责任关怀部课长山口光男先生

的決定-成点換定容 SIFF 中的参与磁覆 - 最初的是一 数化-制定 SIFF 中的参与磁覆 - 最初的是一 共享 RE有其提-和发达失其提-和发生最为作—制定 CNI (化学安全部号) - 男用分型-- 几节注意:都会达到 现记 - 现合是之注: 新卡波重要的。希望这时间来, 现记 经公式方数据某项。但目前为上述常数数部间来。 R

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1括的参与增度。对古来主要当初15世纪代心地 1. 我们就尽早进入这 SBFF 以保证自己的核心地 有姿貌合体甚至是由 DIC 作为主导成员之一成 在 DKP确立了我们的领导性地位。 我们的领导优地位。 1当对于这企业来说正准备注册 F、尽早参加相应的联合体。站 E导权。因为联合体组建后就制 白然舒确立了我! 我建议中国企业当



回要求提供 供应商和用户进行信息沟透的过程中 Mr. Yamaguchi, who is responsible for regulatory compliance at the Responsible Care Dept., DIC, was invited by CNCIC, a leading company in China in the field of publishing books on the chemical industry, assessment and consulting, and he delivered a speech on the regulation of chemicals at the said company in Beijing in April, 2009. By having a question and answer session on several topics, such as "DIC's effort to cope with REACH\*3, " "an outline of the Revised Chemical Substances Control Law and impacts thereof to companies in China" and other subjects, with Chinese experts in the field of chemical management and exchanging opinions with them, both parties deepened their level of mutual understanding.

The details of this event were reported by industry newspapers and attracted attention as an advanced effort attempted by one of the leading companies in Japan.

Mr. Mitsuo Yamaguchi, Senior Manager responsible for regulatory compliance, Responsible Care Dept

\*1 MSDSplus: A document format to supplement information on MSDS advocated by JAMP (Joint Article Management Promotion-consortium) to be uniformly used by the industry \*2 AIS: Article Information Sheet

Another document format advocated by JAMP. While MSDSplus is for chemical products, AIS is for articles.

\*3 REACH: Registration, Evaluation, Authorization and Restriction of Chemicals

European chemicals regulations. Under REACH, businesses bear responsibility for evaluating the safety of chemicals with no distinction made between existing and new chemicals. REACH also prohibits the use of specified chemicals in principle.

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# Quality Policy and Quality Activities

# Flow of Customer First Policy of DIC



# **DIC's Product Provision Process**

#### Planning and Framing

In product planning, related manufacturing, sales, technology and administration departments collaborate and determine the basic performance of products based on requirements from the market and customers.

#### Development and Design Review

In development and design review, quality targets are set in line with the basic performance of products based on market trends and requests from customers, and create values for the same, by reflecting DIC's inherent technologies and accumulated data. Concurrently, we confirm that raw materials and products have no problem from social perspectives.

#### Production and Quality Confirmation

To ensure product quality, we conduct thorough process and identification management. To maintain mutually beneficial relationships with customers, DIC focuses on resource-saving, energy-saving and cost reduction.

#### Sales and Technical Services

We will strive to improve our product quality, by listening to the voices of our customers. To ensure our customers can use our products safely and reliably, we provide information, data and technical services through our sales offices, to further enhance customer satisfaction.

Current Situation of ISO Certification WEB http://www.dic.co.jp/en/csr/environment/iso.html

# Major Quality Activities and Review in FY 2009

- At 12 domestic production plants, we are moving ahead with maintaining our quality and environmental management system and continuously improving it so that its effectiveness can be further enhanced. This policy is also being applied to affiliated companies.
- 2. In FY 2009, Green Partner Certificates were obtained from SONY by our Kashima Plant, Special Compounds & Colorants Division, and two overseas affiliated companies (one in Taiwan and the other in Malaysia). We are also preparing ourselves so that our overseas affiliated companies can positively respond to the needs for supply chains.
- We shared the information we obtained from customers among our manufacturing, sales and technical departments to make use of it for quality improvement. Consequently, the number of complaints from our customers and returned products decreased in FY 2009 compared to FY 2008. (Compensation: -16%, Returned products: -46%, Complaint: -7%)
- 4. At the Sakai Plant, we are operating Quality Patrol activities, in which we visit one site after another where a quality problem has occurred. We periodically check whether or not countermeasures for complaints are continuously taken, thereby attempting to prevent our corrective actions from fading out as a temporary attempt. The Quality Patrol activities are yielding a decrease in the number of complaints (-22% as compared with the previous year). The Sakai Plant also launched a campaign called QC Activities in Sakai and started to provide all their employees with on-the-job training on quality.

In FY 2010, we will conduct environmental safety audits, quality audits, including top management diagnoses, and thereafter follow-up audits, at the 17 manufacturing sites of DIC (including DIC Graphics) to maintain our quality and environmental management system and to yield continued improvement in its effectiveness.

Regarding our affiliated companies, quality audits and

follow-up audits are conducted by the use of self-audit check sheets, with the division responsible for each individual affiliated company taking a leading part in such audit. We are keenly engaged in maintaining/ improving quality.

# Report on Our Business Models Focused on Customer Satisfaction

WEB http://www.dic.co.jp/en/csr/stakeholder/customer/satisfaction.html

#### **Targets and Achievements of Major Approaches**

Viewpoints and tasks of the approaches	Targets for FY 2009	Achievements in FY 2009	Targets for FY 2010
More effective solutions to customers' problems	Making comprehensive use of company-wide technologies that respond to customers' needs	Sorted the core technologies into 29 items in 7 fields	Proposing and making use of introductory literature on our products, which are compiled for individual industries where demands are high

## **Major Activity Highlights**

#### **Our Major Efforts in FY 2009**

Based on the medium-term management plan " DIC 102 ," we promoted a paradigm shift in our focus, from our traditional product-specific management approach to one that allows us to fully exploit the DIC Group's vast resources.

Regarding the business fields/subjects, in which multiple divisions in DIC are involved, we integrated the relevant marketing functions into the Corporate Marketing Dept., and we went ahead with the optimization of our businesses in the materials to be used for solar batteries, digital inks (including Ink-jet inks), and materials to be used for functional films.

We updated DIC's corporate website in FY 2009 and restructured it for easier use by customers so that the customers can select proper products either by type or by application. We are still continuing to update our website, for example, by making the data of individual products more visibly appealing so that the characteristics and physical properties of our products can be easily understood.

In FY 2009, we established a new organization, called the Area Sales & Marketing Dept., through which we started to come into close contact with local regions to introduce various products. In order to allow our customers to effectively utilize DIC's resources, we sorted DIC's entire technologies into 29 items in 7 fields. We call them core technologies and prepared introductory documents for customers.

#### Our Plans for FY 2010

In parallel with broadly introducing our core technologies to customers, we will go ahead with the preparation of Product Guidebooks. Each Product Guidebook will cover a specific industry field, such as electric/electronics, packaging, etc., and, in an attempt to offer our customers specific solutions to their problems, we will introduce to them representative products in which DIC is involved, adopting a crow's nest view.

In FY 2010, we plan to participate in trade shows, one for packaging materials and the other for the building construction/ building-products industry, to exhibit the comprehensive range of DIC's products and technologies.

We will continue to step up our efforts and exercise our creativity and imagination so that many more customers will appreciate the relationship they have had with DIC.



Exhibit of DIC Group's elemental technologies



Examples of elemental technologies

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# **Report on Human Resource Management**

WEB http://www.dic.co.jp/en/csr/stakeholder/staff.html

#### **Targets and Achievements of Major Approaches**

Items	Viewpoints and tasks of the approaches	Targets for FY 2009	Achievements in FY 2009	Targets for FY 2010
Development and Employment of Local Staff for Global Management	Selection of competent human resources and employment of human resources regardless of nationality	Improvement of various HR systems to develop local staff with the Southeast Asia district as the target	The survey of each company completed. The order of priority of companies that need improvement of various HR systems has been determined.	To improve the framework of the current HR system in order to assess personnel using the same scale.
Promotion of Successful Careers for Female Employees	To secure a variety of human resources and provide support to a variety of work formats	Expansion of work fields for female employees	The number of female employees positioned as manufacturing operators and sales persons has increased.	To continue to promote measures to expand work fields for female employees
Promotion of Employment of Persons with Handicaps	To secure a variety of human resources and provide support to a variety of work formats	To achieve the legal employment rate	The rate was not achieved. (1.73% as of July 1, 2009)	To further promote the employment of persons with handicaps for the achievement of the legal employment rate (1.8%)

## **Protection of Workers' Rights**

#### Respect for Human Rights

The DIC Group promotes the creation of a workplace where all employees are properly aware of human right issues and mutually respect each other's human rights. In the DIC WAY Code of Business Conduct, it clearly states that the Company will eliminate various violations of human rights in our corporate activities by the following means: (1) respect for human rights, (2) prohibition of forced labor, (3) prohibition of child labor, (4) prohibition of inhumane treatment, and (5) prohibition of discriminatory treatment.

#### Measures to Prevent Sexual Harassment

The DIC Group prohibits sexual harassment behavior in our DIC WAY Code of Business Conduct. This prohibition is also clearly stated in our company rules and in DIC's declaration to prohibit sexual harassment at work.

In order to maintain a work environment devoid of sexual harassment, DIC continuously posts internal guidelines as well as the list of counseling and complaint windows set up at each site on our Intranet to keep every employee informed, and moreover, provides sexual harassment prevention education to new managers during their training session.

Activities to prevent sexual harassment are intended not only for DIC employees, but also temporary workers and employees of affiliates and the entire DIC Group works to prevent any occurrence and make speedy responses.

#### • Our Measures for Labor-Management and Safety and Health

To create workplaces where employees can actively work with peace of mind, DIC holds labor-management councils and safety and health committee meetings on a regular basis at each site, aiming to further develop mutual trust through information exchanges. Believing that sound and strong business foundations and corporate development will help promote employment stability, as proposed from labor union to management, we hold a management council meeting on an annual basis, exchanging frank opinions mainly on business activities and the future policy.

## Measures to Achieve Work-Life Balance

DIC has been working on improvement of systems to realize work-life balance (a balance between work and family life) so taht female employees can play active roles, and all employees, irrespective of their gender, can choose various life styles. Especially, the contents to support work-child care

balance are prepared beyond what is legally required, so that employees can use it according to their respective situations.

As a result of the above efforts, DIC was certified by the Ministry of Health, Labour and Welfare as a company that positively promotes support for the development of the next generation.



Next Generation Certification Mark "Kurumin"

#### Number of Employees Taking Advantage of the Childcare Leave System

Fiscal year	Number of Employees
FY 2007	30
FY 2008	40
FY 2009	31

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Information Disclosures of CSR Support Systems for Work-Child Care Balance

System for Working while Child Rearing	The Shorter Working Hour System for Childcare and Staggered Working Hour System for Childcare until the end of their child's third grade school year.
Child Care Leave System for Child Rearing Partners	For the period between the child's birth and the following 8 weeks, a male employee can take childcare leave of up to 5 days.
Improvement of the Economic Support System	Employees on child-care leave without pay may borrow part of their bonus and may obtain an in-company loan system for cases such as fertility treatment and use of child-care facilities.
Promotion of the Use of the Systems	A guide to the support systems is posted on our Intranet.

#### • Promotion Activities to Support Successful Careers for Female Employees

Since FY 2006, DIC has been working on activities for female employees to play active roles at the Company, aiming to become a Company where all employees with willingness can play active roles irrespective of their gender. Efforts are made mainly by the dedicated section (General Affairs and Human Resources Dept., the section in charge of female employees' career development promotion) toward education, improvement of the employment rate of females and expansion of work fields.

In FY 2009, both education for management-level employees, lecture for new managers, and career development training for female employees were provided for the improvement of awareness and activate the challenge of female employees.

In view of work fields, in FY 2008, female employees were assigned for the first time to manufacturing sites where workers work in three-shifts. Newly-recruited female employees have been assigned there in FY 2010. Meanwhile, through new recruits and reassignments, there are currently 16 females active in sales. Thus, expansion of work fields for female employees is promoted in a variety of lines of work and workplaces.



The Seventh Female Salespersons Meeting

#### • Development and Employment of Local Staff for Global Management

DIC actively works to promote local staff to management positions of overseas Group companies in order to entrust management to them.

In FY 2009, DIC conducted a survey on various HR systems with Group companies in the Southeast Asia district as subjects in order to expand the area where the human resources management method for global management implemented in China ahead of other countries is adopted.

In the future, from the results of the survey, we will provide management training sessions, etc. for equalization of HR systems and development of future management executives of the Group companies that are higher in the order of priorities.

## **Employment-related activities**

#### Promotion of Employment of Senior Persons

With the aim of providing employment opportunities for capable senior employees who wish to continue working, in 1991, DIC became one of the first companies in Japan to introduce a reemployment system that enables employees to continue working beyond the mandatory retirement age. This system allows for reemployment up to the age of 65. In addition to broadening the scope of opportunities for retirees, DIC has modified this system in accordance with revisions in 2006 to the Law Concerning the Stabilization of Employment of Older Persons.

#### **Reemployment at DIC**

Fiscal year	Number of employees reemployed	Reemployment rate (%)
FY 2007	94	92.2%
FY 2008	84	88.4%
FY 2009	101	99.0%

#### Promotion of Employment of Persons with Handicaps

DIC works earnestly to promote the employment of handicaped persons as part of our efforts to fulfill our corporate social responsibilities.

The legal employment rate was met successfully during FY 2008, but the rate dropped below the legal minimum to 1.73% in FY 2009.

In the future, we will work cooperatively with the local public job placement office (Hello Work) to select model workplaces where persons with handicaps can work on a long term basis.

#### • Spread of CSR

In order to further promote CSR-conscious management, starting from FY 2009, every management-level employees stipulates his/ her "CSR viewpoint" that supports the execution of assignment when he/she sets his/her work assignment.

# **Employment Opportunities and Employee Development**

#### • A Performance-based Employee Qualification System

With the aim of building a workplace that enables all employees to realize their full potential and ensuring the efforts of employees are fairly reflected in salaries, DIC has long applied an employment system that rejects job category, academic record and other such factors unrelated to performance.

Promotions within DIC are determined once annually and based on the results of an objective assessment procedure that includes a written test, essay, interviews and personnel evaluation. This ensures equal opportunities for advancement for all employees exhibiting initiative and skill.

#### A Goal-Oriented Evaluation System

To further heighten the transparency and legitimacy of the evaluation system, DIC has introduced the concept of "management by objective (MBO)" in our system. Based on this concept, targets will be set at the beginning of each period. Based on these, each employee's capability and performance will be semiannually evaluated. The results of this evaluation will be fed back to the employee together with the reasons for the evaluation and disclosed. We also utilize the results of the evaluations to develop our own human resources. (For details of our evaluation system, please refer to the chart below.)

#### **Employee Evaluation Process**



#### Employment Opportunities and Employee Development DIC's Training Programs

DIC's training programs can be roughly divided into 4 categories. In particular, global-minded personnel development training and self-development training have specific characteristics. Specifically, as for our self-development training, even new recruits and junior employees actively participate in the training programs. With the latter, while employees can acquire the necessary skills in executing their duties at work, the programs play a vital role as venues for participants to create networks at the Company.

## **Outline of Employee Training Curricula**

#### Management-level training curricula

Curricula aimed at training and reinforcing the competence of management-level employees in an increasingly global corporate market

DIC Management School ) (DIC Business College

Curricula for cultivating competent human resources in global markets Curricula aimed at strategically cultivating management- and staff-level human resources for DIC Group companies overseas by imparting essential, comprehensive expertise

aining for employees assigned to posts ated to overseas business	Support for employees seeking MBAs at overseas educational institutions	Training overseas

#### Level-specific curricula

Curricula for newly recruited and promoted employees to learn the knowledge required to carry out the role at different levels.



#### Self-development curricula

Various curricula offered by DIC Business School to employees who positively and voluntarily work for skill development

Correspondence courses	Video library courses	e-learning courses	
In-house seminar courses			



Training for newly promoted employees

# Report on Harmony with the Community and Contribution to Society

WEB http://www.dic.co.jp/en/csr/society/index.html

Based on the Guidelines for Social Contribution Activities established in FY 2009, the DIC Group is promoting harmony with local communities and society and advancing our activities, focusing on the establishing of a sound relationship with society.

\*For more details of the Guidelines for Social Contribution Activities, please refer to the DIC website. WEB http://www.dic.co.jp/en/csr/society/guideline.html

## Promotion of the Universal Designs in the Field of Color

The DIC Group has been working on developing colors and color combinations, which can be equally identified by as many people as possible based on concepts of universal designs; supervised by Associate Professor Kei Ito of the Institute of Molecular and Cellular Biosciences, at the University of Tokyo. In line with those activities, we made a statement on a Color Set Recommendable for Universal Designs / Process-Color Version, which can be used for process printing, in October 2009. In this, based on the results obtained from a verification we made of the colors reproduced by the process printing, we set up an optimal CMYK value<sup>-1</sup> for each of the 20 colors. We believe this color set is useful for practical business affairs. It can be used for highly public applications, such as pamphlets, and it is expected to contribute to expanding the usage of universal designs in the area of offset printing.

Also, in the DIC Group, we have prepared various printed

 $^{\ast}1$  In general, printing is composed of four colors, i.e., cyan (C), magenta (M), yellow (Y) and black (K). The CMYK value shows the area ratio that each color shares in a printed surface.

## Spirulina Project Is Finally Launched

The DIC Group is the world's largest Spirulina<sup>-2</sup> supplier with experience in the research, application, and production of edible blue-green algae, Spirulina, for the past 30 years.

The DIC Group recently signed a support agreement with the Alliance Forum Foundation, an NGO active in supporting developing countries, and started to support the Hunger Eradication/Nutrition Improvement Activities, aimed at Africa.

At this moment, in the Republic of Zambia in Africa, which was selected as the first nation to receive the support, an approval for the importation of Spirulina has been released. From now on, a detailed support program will be negotiated with the Ministry of Health to discuss distribution targets and the rationing manner. This project will be incorporated into the malnutrition improvement program run by the Zambian government.

The DIC Group will continue to supply Spirulina, which is an ideal nutritional supplement, to those local people who are facing malnutrition and a risk of hunger, and continue to



Children III Anto

\*2 Spirulina supplement contains an abundant amount of nutritional/healthy substances (i.e., more than 50 kinds), including minerals, such as calcium and iron, and various vitamins. So, it has been highly appreciated as a safe source of an ideal, nutritional food supplement by the World Health Organization (WHO) of the United Nations and the Food and Drug Administration (FDA) of the United States. matters, including a 2010 calendar, called "Door To Imagination," and the CSR Report, with our due attention to the way colors are laid out.

In the DIC Group, we will continue our studies toward a further development/popularization of universal designs and respond to the needs of society aimed at a colorful and good life.

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Pamphlet: A Color Set Recommendable for Universal Designs / Process-Color Version



DIC Group's 2010 calendar "Door To Imagination"

\*This piece of information is posted in a supplement appended to Process Color Note (Ver.7) (see a photo to the left), put on sale in February 2010.

provide relevant technologies and funds for Spirulina.

#### **Dietary Education Class Regarding Spirulina**

Aiming at exchanges with local communities and making a contribution to child education, DIC Liftech Co., Ltd. conducted a dietary education class at the Sakamoto Elementary School in Chuo-ku, Tokyo, on June 1, 2010. In this program, the students learned about natural colorant used for various kinds of sweets, microscopically observed Spirulina algae, which are used to extract a natural blue colorant, and confirmed its unique shape and color in the microscopic world. They also learned about the origin of Spirulina, its natural habitat and the nutritional substances. By introducing some topics on the Spirulina Project, an application possibility in space and others, we tried to get the students interested in the significance existing behind "diet" and maintain an inquiring mind.



Dietary Education Class regarding Spirulina

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Information Security

The Reliability of Financial Reporting

Supply Chain Management

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## Kawamura Memorial Museum of Art

Kawamura Memorial Museum of Art opened in Sakura City, Chiba Prefecture in May 1990, adjacent to the DIC Central Research Laboratory. The Museum marked its 20th anniversary this year. The number of average annual visitors to the Museum is about 100,000 and the total number including garden visitors exceeds 240,000 annually. Thus, the Museum has established itself as one of the major cultural facilities of Chiba Prefecture in Japan.

In addition to its extensive standing exhibits, the museum also stages exclusive exhibitions three or four times each year. "The Fan of Marie Laurencin" in January 2010 and "Joseph Cornell & Mutsuo Takahashi: Intimate Worlds Enclosed" in April both enjoyed favorable comments from visitors. In September, Japan's first-ever exhibition of paintings by American artist Barnett Newman, a major figure in abstract expressionism, started.

For the enhancement of exchanges with the local community, the Museum provides the Art Education Program for school WEB http://kawamura-museum.dic.co.jp/en/

children to help cultivate artistic sensibilities by encouraging them to view and discuss works of art. In 2009, 1,413 children from 59 primary schools participated in the program. In August 2010, providing its art gallery, the Museum served as the venue of the Art & Craft Exhibition of high schools in the Inba District participated by high school students to provide support to help more local citizens to enjoy art and craft.



Exhibition

Kawamura Memorial Museum of Art The Fan of Marie Laurencin

## Preservation of Satoyama<sup>3</sup> (Border Zone between Mountains and Farming Land) with Consideration on Biodiversity

Natural forests with cedars, sawtooth oaks and chinquapins are preserved on the circa 73.52-acre premises of the Kawamura Memorial Museum of Art and the adjacent DIC Central Research Laboratory. The walkways are open to the public and visitors enjoy beautiful sceneries from the four seasons. They find stag and other beetles, dragonflies and cicadas, while walking on the walkway in summer, and view many mandarin duck pairs that have flown in and are feeding with other birds in the Swan Pond in winter. Animal hunting and plant picking are not allowed here as it is a natural nature reserve where rich nature is kept as it is. Kawamura Memorial Museum of Art makes efforts to protect and cultivate Japanese golden-banded lilies. Gatherings of native lilies are found on banks. Gorgeous white lily flowers bloom and fill the air with their sweet scent in July. By helping preserve the Satoyama<sup>3</sup> area, the Museum works to manage the facilities in a manner friendly to the natural environment and

#### biodiversity.

\*3 "Satovama" is a Japanese term applied to the border zone or area between mountain foothills and arable flat land



Walkway on the premise of the Kawamura Memorial Museum of Art

## VOICE

#### Art Education Program



In art classes in school, teachers tend to spend more time on having children learn skills than enjoying works of art. I think it is also important to closely view the object to develop the ability to observe. As teachers in public schools are relocated frequently, it is difficult to have them take part in our program continuously. Accordingly, we keep looking for new participants who agree with our program. I have to spend a huge amount of energy not only on classes are held in the Museum, but also in making preparations or meetings. Still I find my job challenging and satisfying, to offer an opportunity for children to appreciate real works of art and think deeply about them.

Human Resou Management

# Information Security

# Participating in the Program of Fostering Engineering-oriented Human Resources at an Early Stage

#### Organizing a Class for a Hollow Fiber Membrane Experiment at a Senior High School

The Ministry of Economy, Trade and Industry is running a Program of Fostering Engineering-oriented Human Resources at an Early Stage. Their intention is to boost the interest of young people in engineering by conveying fascinating aspects of science and technology at an early stage of their education. DIC participated in this program in 2009, and conducted a class on deaeration/ aeration experiments by utilizing a hollow fiber membrane at Senshu University Matsudo Senior High School on December 22, under the support by Leave a nest Co., Ltd.

Hollow fiber membranes are used very closely in our everyday life, in fact, for example, for deaerating inkjet cartridges, preventing rusty water from occurring at a building or condominium, and so forth. Mr. Suganuma, Technical Section, Chiba Plant, played the role of a lecturer. He explained the characteristics of the hollow fiber by taking a good example of printing problem, which may occur when using an ink-jet printer, together with a method to solve such problem. Thereafter, by using the hollow fiber membrane, the students performed an experiment on eliminating the air dissolved in the liquid.

Having come into contact with the hollow fiber membrane, which barely catches anyone's attention in everyday life, not only the students but also their teachers were interested in it. This attempt turned out to be quite significant for DIC as an educational CSR activity.



A class on hollow fiber membrane experiments

# **Regional Clean-Up Activities and Others**

To help preserve and beautify the regional environment, the DIC Group has been conducting clean-up activities in places such as neighboring roads in various regions. At the plant in Konan City, Shiga Prefecture, employees take part in clean-up day activities such as "Lake Biwa Day" and "Environment Beautification Day" organized by Shiga Prefecture every year. The Komaki Plant in Aichi Prefecture positively engages in volunteer activities such as "Oyama River Clean-up Activities."

Moreover, part of the sports facilities in our plants are open to local citizens, and festivals are held by inviting local citizens for realizing a better relationship with local communities.



Employees of the Shiga Plant engaged in a clean-up



Employees of the Komaki Plant serving as clean-up volunteers

# **Report on Information Disclosures of CSR**

# **Communications with Customers**

We value communications with customers at the site of product development, sales and after sales services. At the same time, in order to help customers more fully understand the wide variety of products DIC handles, we present our products on our website and hold various exhibitions. In FY 2009, we held a private show titled "Space Design Material Exhibition" (SDM Exhibition) in Tokyo and Osaka for customers in the building and building materials industry and received comments from various customers, including new customers, that they have found a new aspect of DIC.

Major Exhibitions in Which DIC Participated JGAS2009 (Japan Graphic Arts Show), October 2009 The 16th ARCHITECTURE + CONSTRUCTION MATERIALS, March 2010

## **Communications with Suppliers**

The DIC Group Supply Chain CSR Deployment Guidebook has been prepared and distributed to major suppliers in order to share our concept to fulfill our social responsibility with the whole supply chain. The guidebook helps strengthen our mutual relationship through the self-check sheets, with which our suppliers can grasp the state of their progress of CSR. Through the system DIC proposes improvements based on the responses entered in the check sheets. In terms of green procurement, we require the manufacturers, from whom we procure raw materials, to thoroughly manage chemicals, adapt themselves to applicable laws and regulations, and make efforts to reduce the environmental load of the entire products.



The DIC Group Supply Chain CSR Deployment Guidebook with self-check sheets



SDM Exhibition in Osaka

## **Communications with Shareholders and Investors**

We strive to make fair, appropriate and timely disclosure of information as a listed company, closely communicate with shareholders and investors, and have their remarks and requests reflected in the management.

#### For Institutional Investors

For institutional investors and securities analysts in Japan, DIC held two operating results briefings and an explanatory meeting on the medium-term management plan. DIC's president himself explained the contents and answered questions in the Q&A session for the better understanding. Moreover, DIC frequently participated in IR conferences organized by securities firms, often held small meetings and offered plant visits for closer communications.

For institutional investors overseas, DIC took part in four IR conferences respectively held in Hong Kong, Singapore, New York, and London for enhanced communication. Compliance

## For Individual Investors

We work to improve the DIC website for the provision of information to individual investors. Various IR materials are posted concurrently with the announcement to Stock Exchanges and the news media. Audio recordings of the operating results briefings have been made available on the website since FY 2009.

Moreover, channels for information provision have been expanded, including posting of articles in IR journals and participation in events for individual investors such as the "Tokyo Stock Exchange IR Festa 2010."





Audio recordings on the DIC website

Tokyo Stock Exchange IR Festa 2010

## Communications with the Local Community and Society

We promote the development of the "Site Report" to report on the Responsible Care activities in our plants. The report was developed in all domestic sites of DIC in FY 2009. In respective plants, we offer plant visits for local citizens.



Site reports of DIC plants

## **Communications with Students and General Public**

We conduct various activities to make DIC better known to the general public.

A new section on the website has been set up with the title: "This is DIC." Products and operations of DIC are presented in a simple manner so that website visitors find DIC accessible.

DIC also participated in the "Japan Production & Packaging in Daily Life 2009," which is an exhibition in which many general consumers take part, to present DIC's activities for ecology and universal design. There DIC positively communicated with visitors to the booth concerning future packaging.

DIC website WEB http://www.dic.co.jp/en/



"This is DIC" on the DIC website

## **Communications with Employees**

In DIC, Twenty-two town meetings were held in major domestic sites and business operations, as a place for direct communications between the president and employees.

These meetings are for providing each employee with an opportunity to think what he/she can do for his/her company so that DIC can make full use of the existing management resources.

The town meeting reports are made available to every employee in in-house newsletters etc. so that the purpose and awareness will be shared. Proposed opinions have been materialized as various measures after review in the specialized section.

Compliance

# **DIC CSR Report 2010 Independent Review**



DIC CSR Report 2010 Independent Review

September 6, 2010

To: Kazuo Sugie Representative Director, President & CEO DIC Corporation

Saburo Nakata

Chief Director, Responsible Care Verification Center Japan Chemical Industry Association (JCIA)

#### Purpose of Verification

Verification of this report is conducted to express the opinions of experts in the chemical industry concerning the following matters in the "CSR Report 2010" prepared by the DIC Corporation (hereinafter referred to as the "Report") by the Responsible Care Verification Center.

- Rationality of methods used to calculate and aggregate performance indicators (figures) and accuracy of the figures
- 2) Accuracy of the stated information other than figures
- 3) Contents of Responsible Care activities
- 4) Distinguishing features of the Report

#### Verification Procedures

• At Corporate Headquarters, we conducted an investigation into the rationality of methods used to aggregate the figures reported by each site (sales offices, plants, domestic subsidiaries, affiliated companies) and the accuracy of the stated information other than the figures. An investigation was conducted by interviewing those responsible for individual businesses and the preparation of reports and obtaining materials and explanations from them.

•At the Kashima Plant, we conducted an investigation into the rationality of methods used to calculate figures reported to the Headquarters, the accuracy of the figures and stated information. This investigation was conducted by interviewing those responsible for individual businesses and preparing reports, obtaining materials and explanations from them and verifying these with the material evidence.

• We applied samplings to the investigation of the figures and the stated information.

- Opinions
- Rationality of methods used to calculate and aggregate performance indicators (figures) and accuracy of figures
   The methods used to calculate and aggregate figures at the Headquarters and the Kashima Plant were rational. The performance figures were accurately calculated and aggregated within the scope of our investigation.
  - We were told that, in order to eliminate data-inputting errors, the introduction of an automatic computation system to be shared by domestic group companies is under study. We hope it will be introduced at the earliest opportunity.
- Accuracy of stated information other than the figures
   We verified that the information stated in the Report was accurate. At the drafting stage, we pointed out some problems in terms of the appropriateness of expressions or comprehensiveness of the text, but these were corrected in the Report and there is no significant matter to be corrected.
- 3) Contents of Responsible Care Activities
  - Fully using the chemical substance information comprehensive management system (CIRIUS), which was developed by DIC, since FY 2009, they have been putting efforts into the management of chemicals for raw materials and products. We highly appreciate that they have established a program by which they can provide precise information on their products, as many as 400,000 different types.

• We appreciate the fact that the domestic DIC Group has been decreasing, steadily according to the plan, the amount of industrial waste disposed of as landfill and the emission of hazardous chemicals into the atmosphere.

- •We appreciate the fact that, by operating the cogeneration facility made up of a woody biomass boiler installed in FY 2008 and the wind power generators installed in FY 2009 at the Kashima Plant, the CO2 emission of the entire domestic DIC Group has been largely decreased, i.e., by 11%. We also appreciate that, as an output of various labor safety and health activities they implemented at the said plant, they have continuously been updating their non-accident record for 12 years.
- 4) Distinguishing features of the Report

• We appreciate that information provided by overseas DIC Group companies has been newly added, including the compilation and public announcement made on their environmental impact data, the reporting on energy saving activities carried out in various regions worldwide, etc.

• Although the CSR activities are promoted as an effort across the DIC Group, it is desirable to promote further integration with those of the Sun Chemical Group.

# **Third-party Opinion**



# Eiichiro Adachi

Chief Researcher

The Japan Research Institute, Ltd.

Responsible for providing financial institutions with corporate information to be used for their socially responsible investment (SRI). Specialized in industrial/ corporate surveys conducted from the viewpoints of environmental management and CSR. Involved in the publishing of "The 15th Corporate White Paper-Market Evolution and CSR Management" as a member of the "Market Evolution and CSR Management" as a member of the "Market Evolution and CSR Management" working group organized for the KEIZAI DOYUKAI (Japan Association of Corporate Executives). Member of the ISO/SR domestic committee under the Japanese Standards Association. Author of "An Introductory Guide for Environmental Management," "Environmental Problems Illustrated for Businesses," etc.

Regarding the CSR activities conducted by the DIC Group, my understanding of them, through reading of the DIC's report, from my standpoint as a specialist providing financial institutions with corporate information to be used for their socially responsible investments, I would like to submit my third-party opinions below.

The DIC Group's effort in CSR activities was begun in FY 2007. Their activities were expanded under an acrossthe-group policy in FY 2008, and they started using selfcheck lists in FY 2009. It appears that a certain basic framework has been formed. The stance of communicating their objective management over 11 CSR subjects clearly indicates a high degree of comprehensiveness. This stance is appreciable. This report contains a table on the Targets and Achievement of Major Approaches, where 11 subjects are listed so that one can understand the progress of individual subjects more easily. However, in order to avoid getting trapped into rolling the predetermined subjects every year in the future, it is vital for the DIC Group to develop their efforts into next stages.

Considering the current operation status of the DIC Group, 54% of whose sales come from overseas, and where the rate of the employees working abroad has reached 69%, it is undeniable that DIC (non-consolidated) or its domestic group companies are disproportionately dominant in the contents of the current report. If overseas group companies are adopting their own management systems or any other reasons exist, it is necessary to report on the major overseas group companies in the form of site reports. Since the scope of this report is supposed to cover DIC and domestic/ overseas group companies subject to DIC's consolidated accounting, when reporting some examples for individual efforts, it is recommended to clearly indicate those entities that implemented such efforts.

Although the descriptions provided for the "Goals of the Medium-Term Management Plan" were precise enough, regrettably, I have to say that the rationale for working on the CSR is rather vague. For most of their raw materials the DIC group relies on petroleum resources, and business risks arising from the uncertainty of petroleum supply in the future seem to be large. I reasonably guess that the DIC Group is faced with diversified problems due to the high rate of the employees working abroad. I would like to see the results obtained from the evaluation of "materiality" being sufficiently explained and learn more about the basic approaches to be taken toward such problems.

In the area of specifics, I have noticed that the emission of chemicals released into the environment by DIC itself is increasing. Looking into this particular aspect, influences given to biodiversity by the DIC Group can never be small enough. The use of plant oils as raw materials is also reported in this report. I would like to request the DIC Group to embrace their efforts in conservation of biodiversity in the future from the viewpoint of business activities.

Regarding the topics described in the Report on Supply Chain Management, the preparation of rules and/or guidebooks is not the objective, but rather whether or not social/environmental performances, including supply chain, have been improved is the central issue. I would like to expect the DIC Group to disclose more information from this viewpoint.

I have read with utmost interest the report on the fact that the DIC Group is the world's largest supplier of Spirulina. I'm now urged to learn more about its possibility as a future business, apart from simply positioning it as part of social contribution.

Please note that my comments mentioned here are not intended for expressing my conclusions as a complete package of opinions covering whether or not the data presented in this report are measured and computed in accordance with those criteria generally accepted as fair and appropriate, which are applied to the preparation of environmental reports, and whether or not all the important matters are expressed, without omission, in the current report.

# **Data Compilation**

# 2009 Environmental Costs Detailed Data

#### Table 1 Environmental Costs (Investments and Expenses)

				(IVIIIIC	nis or yen
	Category	Scope	Investments	Expens	es
<ol> <li>Costs incurred through activities aimed at minimizing the environmental impact generated within the business area through production and sales activities (costs within the business area)</li> </ol>		Costs related to preserving air and water quality, or maintaining or improving waste disposal and recycling activities	94	3,725	
	Cost of pollution prevention and global environment conservation	Cost of conservation of the environment, including the air and water quality	41	1,936	
	Main items	Operating/maintenance expenses related to activities aimed at curbing air pollution (408), global warming (549), water pollution (794), soil pollution prevention expenses (68) and other expenses Investments in air pollution prevention activities (12); water pollution prevention activities (4.4); and other investments		35%	
Breakdown	Resource recycling costs	Costs related to energy conservation and internal and external waste disposal	52	1,789	
Main items Operating/maintenance expenses for activities aimed at reducing energy and resource consumption (432), water consumption (7.9) and waste disposal (867); expenses relate obligatory recycling of used merchandise (0.6), and other expenses Investments in activities aimed at reducing energy consumption (42.3), waste disposal activities(3) and other in		ource related to the in activities ther investments			
2.Environmental costs related to management activities (management activity costs) (Note 1)		Costs related to environmental and safety promotion and education; environmental management and auditing related to acquisition of ISO 14001 certification		400	4.07
Main items		Environmental education expenses (4), personnel/administrative expenses (253), ISO 14001 maintenance expenses (29), environmental impact measurement and monitoring expenses (70) and other expenses	(Note 1) 432		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 impact (including personnel expenses)	213	6,397	59%
4.Environmental costs related to social activities (social activity costs)		Costs of plant and office greening programs and sponsorship money			
Main items		Internal maintenance expenses (13), fees to external 4 163 organizations (106), investment in greening programs (3) and other expenses		163	2%
<ol> <li>Costs related to damage inflicted on the environment (environmental damage costs)</li> </ol>		Environmental clean-up and other expenses		74	
Main items		Levies on lake development (74) [74] and other expenses	0 74		
Total DIC Group (domestic)			313	10,792	100%

Notes: 1. The investment portion of management activity costs is included in costs within the business area. 2. Technological activity costs are those related to the development of products that reduce the environmental impact and include the R&D costs of new products as well as improving/customizing existing products \*Scope of the data gathered for Tables 1, 2 and 4 are those of the domestic DIC Group companies and for Table 3 DIC only. \*The period covered is between April 1, 2009 and March 31, 2010. (Millions of ven

#### Table 2 Economic Effects of Environmental Conservation Measures

	(Minions of y	
Category	Amount	
Income earned by waste recycling	86	
Treatment cost reduction through waste recycling	519	
Cost reduction through energy conservation	149	
Total	754	

#### Table 3 Impact of Measures to Protect the Environment

Category	Environmental Load Indices	Base Indices	
	CO2 emissions (calculated in tons of carbon) per unit of production	FY 1990 (Base year) = 100	97
	SOx emissions per unit of production	FY 1990 (Base year) = 100	29
	NOx emissions per unit of production	FY 1990 (Base year) = 100	115
	COD emissions per unit of production	FY 1990 (Base year) = 100	59
<ol> <li>Impact of environmental protection measures within the business area</li> </ol>	Energy used (calculated in volume of crude oil used) per unit of production	FY 1990 (Base year) = 100	95
	Emissions of solid wastes disposed of as landfill	(of the FY 1990 level) (base year for plan)	0.7%
	Target under DIC's reduction plan	(of the FY 1999 level) (base year for plan)	1.2%
	Fees paid for waste disposed of as landfill (FY 2009 actual payment base)	(of the FY 2008 level) A reduction	n of 80 million yen
	Emissions of PRTR chemicals (revised list)	(of the FY 1999 level) (base year for plan)	41% (Note 3)

 $2.Impact \ of \ upstream \ and \ downstream \ environmental \ protection \ measures \ CO_2 \ emissions \ realized \ as \ a \ result \ of \ modal \ shifts \ were \ 1,616 \ tons \ more \ than \ would \ have \ been \ the \ case \ with \ truck \ transport. \ (Note \ 4)$ 

Notes: 3. Figures represent emissions of PRTR chemicals based on a revised list of target chemicals that went into effect in FY 2001 and is retroactive to FY 1999. 4. 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<sub>2</sub> emissions was realized through the use of large-scale transport modes in FY 2009.

# 2009 Safety- and Health-Related Costs Detailed Data

#### Table 4 Safety- and Health-Related Costs

Table 4 Safety- and Health-Related Costs     (Millions of yen)				
Category	Investments	Expenses % of Total		
Safety and health management costs (Safety management costs) (External training participation costs; qualification acquisition costs)	121	378 (346) (32)	35%	
Safety- and health-related activity costs		215	19%	
Chemical substances safety data costs Fees paid to outside firms for safety data-related tests	—	268	24%	
Safety and fire prevention activity costs	22	251	23%	
Total	143	1,112	100%	

Notes



# **DIC** Corporation

Corporate Communications Dept.

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## http://www.dic.co.jp/en/csr/









This booklet uses FSC certified paper and is printed by the waterless printing method which does not require dampening water including solvents. Consideration is given to universal color design so as to convey information precisely to as many people as possible.