

**Kuraray CSR Report 2012**  
**Corporate Social Responsibility Report**

**kuraray**

# Message from the President

We experienced unprecedented events such as the Great East Japan Earthquake and the Fukushima Daiichi Nuclear Power Plant accident that occurred last year on March 11. We would once again like to express our deepest sympathy for those who lost their lives in the earthquake, and to those who are still living in evacuation shelters.

In fiscal 2012, we launched our new three-year medium-term management plan, GS-III. In the first half of our previous mid-term management plan, GS-Twins (from fiscal 2009 to 2011), we implemented a focus on improvement of profit structure as a result of the crisis caused by the Lehman collapse, followed in the latter half by a focus on the creation and expansion of new business and acceleration of our global strategy for core businesses. We are ready for a growth with the capability to realize the goals stated in the long-term corporate vision of becoming a “specialty chemical company with a global presence.” In accordance with our long-term corporate vision, GS-III sets out three basic policies: formulating a business plan for net sales of one trillion yen by approximately 2018, building a business foundation that allows for new growth in the Kuraray Group, and realizing a superior management foundation with a global outlook. Under GS-III, in fiscal 2014, the final year of the plan, our targets for net sales and operating income are 550 billion yen and 85 billion yen, respectively.

## CSR Spirit

A company naturally needs to achieve profits through its business activities in order to maintain a global presence and work for sustainable growth, but we believe that it is also important to achieve excellent quality in our business operations and to work toward that goal by continuously enhancing the quality of our management. It was the belief of Kuraray’s founder, Magosaburo Ohara, that “returning all the wealth obtained from society back to society,” and the idea of his successor, Soichiro Ohara, that “any profit which a company might gain should be confined to those profits that come from technological innovation and from consideration of the social and economic

benefits it brings to the entire nation,” that gave rise to the corporate culture of Kuraray. This culture is encapsulated in the phrase “Contributing to the World and Individual Well-being through Actions that Others are Unable to Produce.” Having a founder who believed in corporate social responsibility even in an era when the term CSR was unfamiliar, Kuraray has inherited a sense of such responsibility. The true meaning of CSR lies not in the expansion of profitability, but in enhancing the quality of business and management with an eye to advancing society.

Under GS-III, CSR management is bolstered through five management strategies in the areas of technological innovation, geographical expansion, utilization of external resources, strengthening of the global business foundation, and environmental measures. Specifically, we will promote the establishment of a global risk management system, further improvements in safety management, revitalization of the ethics and compliance program, and the revamping of the quality management system. As for environmental measures, Kuraray aims to provide, at low environmental load, products which contribute to maintaining and improving the global environment. We have selected environmental efficiency (net sales value per unit of environmental load) as an environmental index on which to base our efforts and we will formulate and implement a Medium-Term Environmental Plan which outlines targets for fiscal 2020. Through the implementation of various measures to achieve this plan, we will make efforts towards global warming solutions, management of chemical substances emissions, and effective use of resources.

## Responsibilities and Challenges as a Company

Kuraray was founded in 1926 to pursue business in rayon. In 1950, Kuraray became the first firm in the world to succeed in the commercial manufacture of *KURALON* (PVA fiber). Ever since, we have been continuously striving to develop and commercialize products useful to society in the field of

high-performance resins and chemicals, beginning with Poval, *EVAL*, and Isoprene, based on our distinctive polymerization and synthesis technology.

However, our founder, Magosaburo Ohara, and his successor, Soichiro Ohara, focused not solely on the expansion of the business, but also founded and assisted with the operation of social enterprises such as Ohara Museum of Art, Kurashiki Central Hospital, Ishii Memorial Aizen-en and the Institute for Science of Labour. These institutes and organizations continue to contribute to society even today. Kuraray continues to provide cooperation and support to these enterprises and additionally tackles social problems through activities within its own field of activity such as “Chemistry Classes for Boys and Girls,” the Kuraray Workshop for people with mental disabilities and “Sending School Bags across the Sea.”

## CSR Roots

Kuraray’s corporate philosophy carries on the spirit behind its founding, and is encapsulated in the words “respect for individuals,” “cooperation in shared goals,” and “creation of values.” Kuraray’s corporate mission—“We in the Kuraray Group are committed to opening new fields of business using pioneering technology and contributing to an improved natural environment and quality of life”—expresses the essence of the social responsibility which is Kuraray’s duty to discharge. We add value to the resources entrusted to us by society through the application of pioneering technology and thereby return this contribution to society. We will carry on realizing sustainable corporate growth through continued research and development and capital investment. With the global economic slowdown brought on by the European sovereign debt crisis which began last summer, and political turmoil in Japan, we find ourselves operating in a troubled environment. I hope nevertheless that, undaunted by this situation, we at the Kuraray group will all react by bringing together our wisdom and facing these challenges with conviction in “Contributing to the World and Individual Well-being through Actions that Others are Unable to Produce.”



*F. Ito*

**Fumio Ito**

Representative Director and President  
Kuraray Co., Ltd.

# Corporate Profile

Company name	Kuraray Co., Ltd.
Representative Director and President	Fumio Ito
Date of establishment	June 1926
Capitalization	89 billion yen (as of March 31, 2012)
Number of employees (consolidated)	6,776 (as of March 31, 2012)

Head offices	Tokyo, Osaka
Plants and laboratories	Kurashiki, Saijo, Okayama, Niigata, Kashima, Tsukuba
Group companies	31 consolidated subsidiaries, 1 equity method affiliate (as of March 31, 2012)
Overseas operations	USA, Germany, Belgium, China, Singapore, India, Brazil

## Business Outline

Kuraray Co., Ltd. was founded in Kurashiki, Okayama Prefecture in 1926 for the purpose of commercializing chemical fiber rayon. Ever since, it has applied its original technology to create products that did not exist before. It became the first company in the world to commercially manufacture *KURALON* (PVA fiber) based on domestic technology, and followed this with production of poval resin, which was created as the base resin for *KURALON*; photochemical poval

film, which is indispensable for LCD devices; *EVAL*, which has excellent gas barrier features; and a host of isoprene chemical products born of the world's only synthesis method. We are also doing business in products familiar to ordinary consumers, such as *CLARINO*, a man-made leather which duplicates the structure of natural leather, and *MAGIC TAPE* surface fasteners.

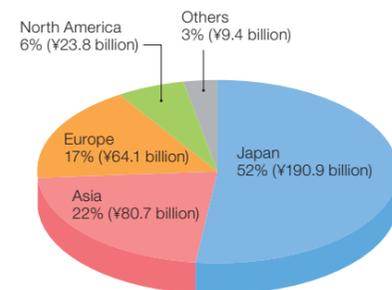
## Overseas Operations

Drawing on its distinctive technology, the Kuraray Group is developing business overseas based on its policy of producing in the optimal location and marketing in the optimal location. Its overseas network has expanded to 43 sites in a total of 17 countries and regions.

### Main Operational Sites

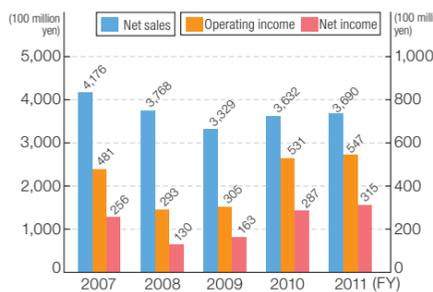


### Sales Share by Market (Fiscal 2011)

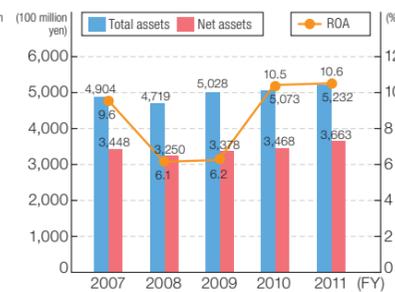


## Kuraray Group Financial Highlights (Fiscal 2011)

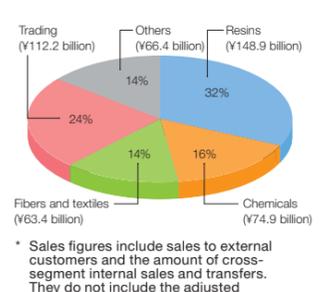
### Trend in Consolidated Business Performance



### Trend in Consolidated Total Assets, Net Assets, and ROA\*



### Consolidated Net Sales Share by Segment\* (Fiscal 2011)



# Editorial Policy

## Reporting Period

From April 1, 2011 to March 31, 2012  
(Some activities conducted before or after the reporting period are included.)

## Reference Guidelines

GRI Sustainability Reporting Guidelines (Version 3.0),  
Ministry of Environment's Environmental Report Guidelines (2012 Edition)

## Scope of the Report

- Safety and Environment**  
Reports focus on Kuraray Co., Ltd. and domestic affiliated companies, but also include some overseas affiliated companies
- Social**  
Reports focus on Kuraray Co., Ltd., but also include some affiliated companies depending on their activities in the respective field
- Economic**  
Kuraray Co., Ltd., consolidated subsidiaries, and equity method affiliates (total 33 companies)

## The Kuraray Group (Consolidated Subsidiaries)



\* Kuraray Noritake Dental Inc. commenced operations following the integration of Kuraray Medical Inc., Noritake Dental Supply Co., Ltd. and Kuraray Noritake Dental Holdings Inc. on April 1, 2012.

All italicized product names in this report are trademarks of the Kuraray Group.

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# CSR Management

Kuraray's corporate philosophy is to pursue the value of contribution to society by respecting each and every individual and producing materials that fill a need in people's lifestyles through its creative technological skills. The purpose of our business is to add value to the resources entrusted to us by society through the application of pioneering technology and thereby return this contribution to society. We believe that how we implement measures to achieve these goals while respecting the interests of all our stakeholders, including our shareholders, suppliers, consumers, local residents and employees, is important as a social responsibility of our company.

### Corporate Philosophy

Respect for individuals  
Cooperation in shared goals  
Creation of values

### Corporate Mission

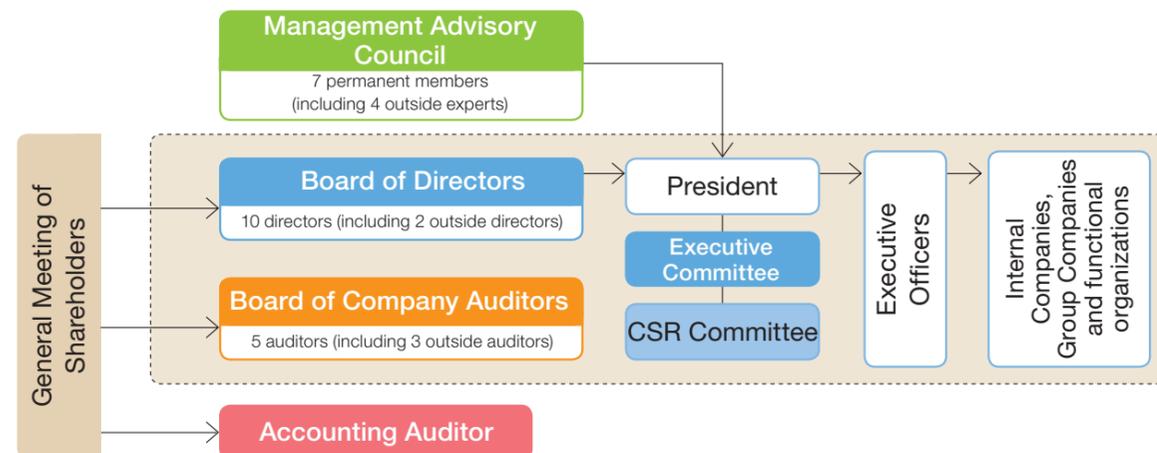
We in the Kuraray Group are committed to opening new fields of business using pioneering technology and contributing to an improved natural environment and quality of life.

## Corporate Governance

We at Kuraray view corporate governance as necessary for maintenance of sound relations with our shareholders and the various other parties in society with a stake in our company. We consider it vital not only for assisting in the improvement of our performance and sustained growth as a company but also for fulfilling our responsibility to society.

In fiscal 2003, we executed a program of reform in

which we reinforced the Board of Auditors by adding more outside auditors, established the Management Advisory Council, reduced the prescribed number of directors while shortening their term of office, and introduced the executive officer system in order to separate the functions of supervision and execution. In fiscal 2008, we made further enhancements for corporate governance by appointing outside directors.



- The Board of Directors has a membership of ten, including two outside directors. Besides making decisions on matters of importance to management, it monitors and supervises the execution of business in accordance with the basic guidelines for internal control.
- We introduced the system of executive officers to separate the duties of management-related supervision from those of business execution. The executive officers are appointed by the Board of Directors, and some are also members of the Board who have been granted executive authority. They serve as the heads of internal companies, divisions, subsidiaries, and major functional units, and are responsible for business execution and results.
- The Board of Auditors has a membership of five, including three outside auditors. The company auditors attend Board of Directors meetings and other important conferences, and monitor the execution of duties by the directors through activities such as hearings on business execution status and audit visits to Group business locations.
- The Management Advisory Council is composed of seven permanent members, including four external ones with a wealth of experience in

management and legal affairs. It offers advice to the President on matters such as Kuraray Group's management policies and important issues, business plans, succession of the President, successor candidates, and remuneration, with attention to compliance with laws and regulations, protection of shareholder interests, and management transparency.

- In June 2007, Kuraray began to implement "measures against large-scale purchases of Kuraray shares (Anti-Buyout Measures)." The general meeting of shareholders held in June 2009 approved a revision of these measures and their extension for another three years. In response to buyers who do not follow the rules or to purchasing behavior that is seriously damaging to our corporate value or the common interests of our shareholders, the Board of Directors will determine whether or not countermeasures must be taken. In making this determination, the Board will follow the prescribed procedures and accord full respect to the advice of a Special Committee composed of four members appointed from the group of outside directors and outside auditors.

Web <http://www.kuraray.co.jp/en/ir/strategy/governance.html>

## CSR Promotion Structure

In 2003, Kuraray instituted the CSR Committee by integration of the Philanthropy and Environment Committee and In-house Ethics Committee, and bolstered its CSR promotion structure on the Group level. Under the CSR Committee are arrayed four subordinate committees as specialized units on the management level (i.e., the Social Responsibility and Economic Subcommittee, Environmental and Industrial Safety Subcommittee, Global Warming and Industrial Safety Subcommittee, Global Warming

Measures Subcommittee, and Risk Management and Compliance Subcommittee). These committees examine companywide policies and targets and report on the same to management. The theme-specific working groups making up the subordinate committees collaborate with various Group units in addressing their respective agenda based on the CSR-related policies.

### CSR Committee Organizational Chart



## Risk Management

To enhance our management structure on the Group level, we are making an overall review of and provisions for risk management. Based on the self-assessments made by the heads of divisions, plants, subsidiaries, and administrative organizations, we are identifying actual risks and having the Risk Management and Compliance Subcommittee as well as the CSR Committee deliberate on those judged to be major ones that could have a substantial impact on our management. In addition, our executives make their own judgments on situations that are regarded as important business risks, determine basic Group policy for their management, and issue instructions for requisite specific guidelines. In this context, our approaches emphasize the detection of latent risks of a spontaneous nature that are both difficult to foresee and significant, and the classification and quantification

of risks from a companywide perspective in order to build setups for priority countermeasures. Because the Kuraray Group has many businesses that command large shares of the market and that rest on original technology, we are also integrating individual risks and reevaluating them from the standpoint of business continuity.

In addition, we confirm and improve the status of risk management through a variety of risk checking systems, including our security export control program, environment and safety management system, and assessment of internal control related to financial statements.

We have instated a setup for the establishment of the Emergency Command Center headed by the President, for swift action in response to occurrence of any major emergency situation.

## Compliance

### Principles for Business Conduct

- We will develop and provide products and services, giving full consideration to safety.
- We will conduct businesses in a free, fair and transparent manner.
- We will maintain good communications and build a sound relationship with society.
- We will strive to preserve and improve the global environment and to secure safety and health.
- We will respect intellectual properties including trade secrets and control information properly.

### Compliance Declaration

- 1 We will comply with the laws and regulations or the Principles for Business Conduct.
- 2 We will give precedence to laws and regulations, and to the Principles for Business Conduct, over corporate profits.
- 3 We will strive to prevent any act that goes against laws and regulations or the Principles for Business Conduct, or that betrays the trust that society has placed in us.

Kuraray has built an organizational culture in which executives join with each and every employee in taking action underpinned by a keen sense of ethics as good citizens. We have mounted approaches to compliance that go beyond the mere observance of laws and regulations in order to ensure corporate transparency and fairness.

Our Principles for Business Conduct were established in 1998 for the purpose of seeing that all of our business activities are in harmony with the global environment and civil society in light of our wide-ranging involvement with that society. They set forth proper patterns of behavior for each employee. Then in 2003, the Compliance Declaration was published to clearly state that “we will give precedence to laws and regulations, and to the Principles for Business Conduct, over corporate profits.” In 2005, we compiled the Compliance Handbook, which consists of the Kuraray Group Code of Conduct describing the Principles in specific terms and the Compliance Guidelines with examples and commentary on them, and provided all of our domestic employees (including part-time, contract-based and temporary staff) with a copy of the Handbook for education. In 2009, we published the second edition of the Compliance Handbook with revised contents. To reflect situations at our overseas locations, we prepared US, German, Chinese, Belgian and Singaporean editions for distribution to the respective subsidiaries, which are using them for employee education.

We also distribute the Compliance Card\*, which spells out our management stance on compliance, to all members of our Group in Japan, to make sure that all employees know of our internal reporting system.

In fiscal 2011, Kuraray released and distributed the fourth edition of the Antitrust Act Compliance Guidelines, and held training conducted by an external attorney for all employees concerned.

The Principles and the Code are disclosed on our website.

#### \* Compliance Card

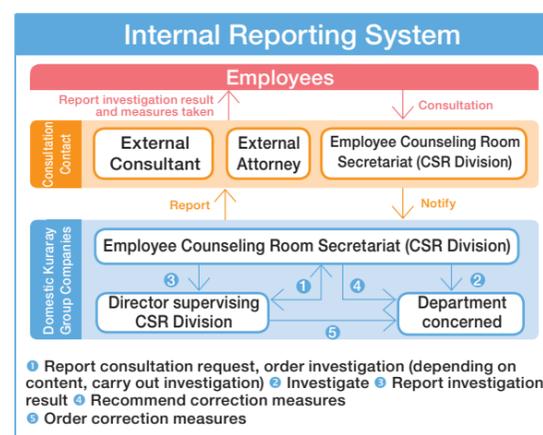
A card containing the President's Compliance Declaration, our corporate philosophy and Principles for Business Conduct, and the contact number of the internal reporting system. Beginning in 2003, it was distributed to all employees of the Kuraray Group in Japan, including temporary staff. Employees are instructed to carry the card with them at all times.

Web <http://www.kuraray.co.jp/en/csr/conduct.html>

### Internal Reporting System

We set up the Kuraray Group Employee Counseling Room as the center of our internal reporting system for all employees of domestic Group companies (including contract-based, temporary and part-time staff). The system is aimed at preventing compliance violations as well as early detection and resolution of the same. We also provide our employees with information on methods of internal reporting and rules for protection of informants through our intranet and on the Compliance Card. In addition, our overseas affiliated companies have each set up their own internal reporting systems.

Furthermore, each of our offices is equipped with a special consultation office related to sexual harassment, staffed with personnel that includes female employees.



## Communication

To ensure its accountability to society as a whole, Kuraray practices timely and appropriate disclosure of information to the whole spectrum of stakeholders (shareholders, customers, suppliers, employees, local communities, etc.) in line with the Kuraray Group Disclosure Policy formulated in May 2007.

Web <http://www.kuraray.co.jp/en/disclosure.html>

### IR Activities

In keeping with its emphasis on reliability and fairness in its provision of investment information, Kuraray conducts IR activities for shareholders and investors. In addition to holding results briefings for institutional investors in Japan, we work to provide timely and thorough information to individual investors by posting on our website video footage of results briefings and our general meeting of shareholders while also holding separate briefings for private investors.

Additionally, we distribute an English version of the video footage of the results briefings, and regularly visit overseas institutional investors in Europe, North America and Asia, to explain and exchange views on such matters as our company's financial situation.



Video distribution of results briefings

Web <http://www.kuraray.co.jp/en/ir/>

### Publicity and PR Activities

The Kuraray Group is engaged globally in publicity activities for timely provision of information on our current status. Besides announcements of corporate news through regular news agencies in Japan and overseas, we have a full assortment of tools for this purpose, including display of the latest company information on our websites in Japanese, English and Chinese, and preparation of brochures and videos.

To raise recognition of our company and understanding of our business operations, we are promoting PR activities encompassing a corporate advertising campaign centered on TV commercials in Japan, and advertisements in chemistry journals overseas. Also we strive to communicate with our stakeholders through appearance at exhibitions and events.

As part of this communication, we have been exhibiting at Eco-Products, Japan's largest environmental exhibition, since 2005. In 2011, under the theme of "Environmental Mirabakesso\*," we presented a display of environment-oriented materials and technologies which attracted approximately 14,000 visitors.



Eco-Products 2011 was held on December 15-17

#### \* Mirabakesso

A keyword used in the Kuraray Group's corporate advertising campaign, which is a contraction of the catchphrase, "Mirai ni Bakeru Shinsozai." Translated from the Japanese, it means: "New materials that transform into the future."

# Approaches to Safety

The Kuraray Group has a safety management system for detection of risks of occupational and safety-related accidents to prevent any such occurrences. We operate this system to make workplaces that are safe and free of accidents and disasters by heightening the safety awareness of employees. Similarly, in preparation for the event of accidents and disasters, we conduct drills to curtail damage to the minimum. We also attempt to prevent any recurrence through sharing of information on actual cases and their lessons.

## Basic Policy and Concepts in Occupational Safety and Disaster Prevention

Concepts on Occupational Safety and Disaster Prevention

“Safety is the Cornerstone of Everything We Do”

**Basic Policy on Occupational Safety and Disaster Prevention (Fiscal 2012)**

- 1 Ensuring “Safety First, Production (Construction, R&D) Second”
- 2 Do “CHECK” based on fundamental principle before taking every actions
- 3 All employees act with determination for the achievement of zero accidents and disasters

## Safety Management

In accordance with the Safety Activity Management Regulations established in May 2007, the domestic Kuraray Group companies prepare safety plans every fiscal year in their efforts to ensure occupational safety and disaster prevention. To be more specific, each year, at a meeting of our Safety Promotion Committee attended by the President and the director in charge, we make an overall assessment of the safety activities performances and determine policy for such activities in the coming fiscal year. Each plant and unit establish its own policies and goals based on this corporate policy, reflect them in its concrete action plans, and pursue activities in accordance with the plans. Twice

a year, a group of safety representatives from the headquarters, including the assigned executive officer, visits each plant to conduct Site Safety Inspections in aspects such as the drafting of action plans, and action taken based on these plans and its results. The findings of this inspection are reflected in the activity policy for the next fiscal year.

Since fiscal 2009, each unit has been carrying out activities efficiently and effectively by performing PDCA cycles of safety activities and utilizing the Safety Level Evaluation System, which was formulated as a tool to objectively assess the level of safety and weak points in each unit.

### Targets and Actual Performances

Evaluation ◎: achieved ○: largely achieved △: further effort required

Item	Scope	Goals for achievement	FY2011			FY2012 target
			Target	Actual performances	Evaluation	
Occupational Safety	Number of lost-time incidents Domestic Kuraray Group Companies	0 incidents	0 incidents	2 incidents	△	0 incidents
		Establishment of safe, comfortable workplace and safety climate	Effective safety activities utilizing the Safety Level Evaluation System	We have formulated and carried out action plan to strengthen weak points identified by the Safety Level Evaluation System	◎	<ul style="list-style-type: none"> <li>•Implementation of efficient and effective safety activities based on appropriate evaluation of activity results</li> <li>•Steady implementation of thoroughly identifying risks, avoiding overlooking hazard sources</li> </ul>
Operational Safety and Disaster Prevention	Number of security incidents Domestic Kuraray Group Companies	0 incidents	0 incidents	1 incident	△	0 incidents
		Improving intrinsic safety of plant facilities	Specification of hazard sources relating to security accidents, and identification and assessment of security risks.	Identification, evaluation, and improvement relating to security risks in line with the Risk Management Rules at Kuraray Plants. Additionally, in the wake of the Great East Japan Earthquake, identified risks above and beyond the previously envisaged scope and began to revise and formulate plans from the point of view of preserving human life and disaster mitigation including disaster prevention and preventing damage spread.	◎	<ul style="list-style-type: none"> <li>•Steady implementation of appropriate measures to reduce security risks according to the size of the risk</li> </ul>
		Enhancement of Safety Management System	We have established the system to continuously minimize disaster prevention risks and continuously improve the Safety Management System.		◎	

## Occupational Safety

We at the Kuraray Group recognize that ensuring employee safety and health is the very basis of a company’s business activity. Through properly operating our occupational safety management system, we strive to improve the level of safety for the entire organization as well as each employee toward our goal of safe, accident-free workplaces.

In fiscal 2011, each unit worked to carry out effective and efficient safety activities by making improvements in weak points in safety activities identified through the Safety Level Evaluation System implemented last year, and by making the results of the improved safety activities visible in terms of the safety level. The level of safety in each unit is steadily rising, as shown by the three occupational safety incidents in fiscal 2011 (two lost-time injuries and one no lost-time injury), which

represented an improvement over the five incidents of fiscal 2010 (three lost-time injuries and two no lost-time injuries).

As a new initiative in fiscal 2012, to appropriately evaluate the organization’s safety level, the following two measures will be carried out:

- 1 Evaluation of occupational incidents based on the potential degree of injury, and an analysis of the cause of the incident (poor quality) in addition to evaluation based on the result of an incident
- 2 Measurement of the Occupational Incident Rate, which covers all occupational injuries in order to implement evaluation based on unified standard for domestic companies and overseas subsidiaries

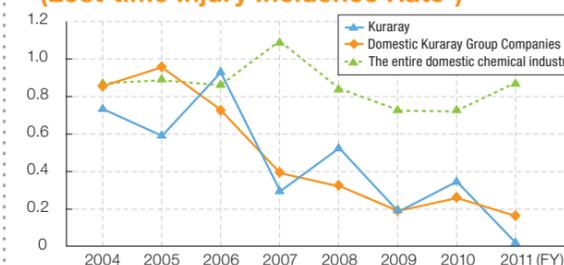
By carrying out these measures, and implementing activities effectively and efficiently to evaluate and improve our safety level as an organization and enhance the safety awareness of individual employees, we are working to reduce the number of lost-time injuries to zero.

### Number of Occupational Incidents

	FY2007		FY2008		FY2009		FY2010		FY2011						
	Lost-time	No lost-time													
Kuraray	2	0	2	3	0	3	1	0	1	2	1	3	0	1	1
Domestic affiliated companies	3	4	7	1	1	2	1	3	4	1	1	2	2	0	2
Domestic Kuraray Group Companies total	5	4	9	4	1	5	2	3	5	3	2	5	2	1	3
Domestic subcontracting companies*	7	2	9	1	2	3	1	0	1	0	0	1	1	1	2
Overseas affiliated companies	5	4	9	12	1	13	9	1	10	7	3	10	18	2	20

\* Companies performing contracted work in Kuraray plants

### Trend in Occupational Safety Performance (Lost-time Injury Incidence Rate\*)



\* Lost-time injury incidence rate = Number of injuries per million work hours = Number of injuries / Number of hours worked x 1,000,000

## Operational Safety and Disaster Prevention

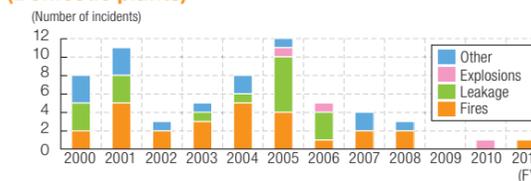
At the Kuraray Group, we consider it a major responsibility to prevent the occurrence of explosions, fires, leakage of hazardous substances, other accidents and disasters that could have an immense impact on society, as well as to curtail the damage in the event of any occurrence to the minimum level. For our risk management, we have especially dealt with safety assessment and management of change, when the facilities are newly built or remodeled, and operating conditions are changed. In addition, we have mounted companywide approaches in areas such as risk assessment related to safety and disaster prevention (based on HAZOP\*, etc), quake-proofing measures for buildings and plants, conditioning of the safety management system for facilities, and disaster-response drills.

Nevertheless, in April 2011 a small fire broke out due to abnormalities in equipment during operation at one of our Group companies. No one was injured, and the damage to equipment was minimal. The area had been recognized as a source of danger, but fundamental

countermeasures to prevent the outbreak of fire were not in place.

In fiscal 2012 we will continue assessment from all angles to identify hazard sources potentially leading to safety-related accidents, and investigate and implement measures as appropriate to prevent disasters from spreading (disaster mitigation measures), as well as take fundamental prevention measures (disaster prevention) in accordance with the degree of risk.

### Security and Safety-related Accidents (Domestic plants)



### \* HAZOP (Hazard and Operability Study)

A technique for the drafting and analysis of scenarios for hazards in chemical processes.

## General Disaster-Prevention Drills

In its production activities, the Kuraray Group handles a huge amount of hazardous substances and high-pressure gas. In readiness for accidents or disasters, each plant is equipped with fire-prevention and -extinguishing facilities. Each plant also has emergency teams which regularly conduct drills. In fiscal 2011, we conducted the drills on the assumption of various situations at each plant, including occurrence of fires, leakage of hazardous substances, earthquakes, and tsunami both at night and on holidays.

In addition, because major accidents require crisis management on a companywide scale, we also conduct drills involving the Emergency Command Center with the participation of the President and other representatives from each division at our

headquarters. In December 2011, a drill based on the scenario of a fire at our Okayama Plant was conducted, and coordination between the plant and our headquarters was confirmed. Furthermore, in fiscal 2011 a disaster drill based on the scenario of an earthquake directly hitting Tokyo was conducted. Emergency Command Centers were established at both our Tokyo and Osaka headquarters, and coordination responses between the centers were confirmed.



A disaster prevention drill at our Niigata Plant



A disaster prevention drill at our Tokyo Headquarters

## Logistics Safety

To prevent damage to society at large due to logistics accidents, we are engaged in an ongoing promotion of activities to ensure logistics safety in the aspects of product shipment and storage. The Logistics Safety Conference, which leads these activities, entered its eleventh year, and conducted safety training

(two sessions in fiscal 2011 with participation of 22 companies in total) on subjects including verification of an accident caused by a fall of a worker during loading of a wing open type box truck. This training was provided for logistics personnel and concerned mainly with the transport of general cargo.

## Product Safety

### Basic Policy on Product Safety

The Kuraray Group endeavors to contribute to creating an affluent, comfortable society by meeting customer needs through the supply of safe and reliable products.

### Action Guidelines for Product Safety

- 1 Supply products that meet the level of safety expected by society in compliance with safety-related laws and regulations and on the basis of the latest technologies.
- 2 Minimize any anticipated risk associated with the products we supply.
- 3 Maintain an appropriate quality management system to ensure that all products meet requisite quality and safety standards.
- 4 Provide accurate product information to customers and end users to prevent accidents due to inappropriate use or handling.
- 5 Strive to develop safer products and improve product safety technologies.
- 6 Strive to strengthen information gathering and internal and external cooperative frameworks to ensure and improve product safety and quickly respond to accidents.
- 7 Strive to raise product safety awareness among all employees and develop product safety specialists.

At the Kuraray Group, we recognize that the basis of our business activities is the provision of safe products and our Principles for Business Conduct state our commitment to the development and provision of products and services while taking safety into consideration (see page 7).

Furthermore, to provide products that are adapted to diversifying needs and in conformance with laws and regulations, we have determined our Basic Policy on Product Safety and Action Guidelines for Product Safety.

### Promotion Structure

Activities related to quality control and product safety are led by the concerned departments and affiliated companies on a routine basis, while companywide tasks are addressed by the CSR Division (Quality Assurance Group) and Working Team for Product Quality and PL\*, which deliberate on countermeasures and initiatives for improvement. Fiscal 2011 saw

deliberation on product safety measures by the concerned department and the CSR Division in connection with the provision of materials for new applications in fields such as medical devices and products that make use of nanomaterials (ex. CNT). Similarly, chemical substance management is basically led by the concerned departments and affiliated companies, and monitored by the CSR Division (Quality Assurance Group).

#### \* PL (Product Liability)

The term refers to the liability of businesses manufacturing or processing a product for payment of compensation for any harm caused to life, body, or property due to defects in said product. When a causal relationship can be proven between the damage and the product defect, the manufacturer bears responsibility for compensation regardless of the presence or absence of negligence.

## Quality Assurance

### Quality Management System

At the Kuraray Group, our quality management system is devised in accordance with ISO 9001, other standards and the procedural flow of our business operations. In line with our Basic Policy on Product Safety and Action Guidelines for Product Safety, we also collect product information on items such as

### Quality Management System Certifications (As of March 31, 2012)

#### (1) ISO 9001

- Kuraray Niigata Plant
- Kuraray Kashima Plant
- Kuraray Okayama Plant
- Kuraray Kurashiki Plant  
(Aqua Production and Technology Development Dept./ Product Development Dept., Poval Film Production and Technology Development Dept.)
- Kuraray Tamashima Co., Ltd. (Ester Plant)
- Kuraray Saijo Plant
- Kuraray Plastics Co., Ltd. (Ibuki Plant)
- Kuraray Chemical Co., Ltd. (Tsurumi Plant)
- Kuraray Fastening Co., Ltd. (Maruoka Plant)
- Kuraray Engineering Co., Ltd.
- Kuraray Trading Co., Ltd.  
(Chemicals & Industrial Materials Div., Belt Products Dept.)
- Kuraray Techno Co., Ltd. (Building Maintenance Service Division)
- EVAL Europe N.V.
- Kuraray Europe GmbH (Division PVA/PVB, Division TROSIFOL)
- Kuraray America, Inc. (EVAL BU, SEPTON BU)
- Kuraray Asia Pacific Pte. Ltd.

\* The following Group companies occupying the same premises as Kuraray plants are included.  
Kuraray Saijo Co., Ltd., Kuraray Kuraflex Co., Ltd., Kuraray Okayama Spinning Co., Ltd., Kuraray Techno Co., Ltd.

#### (2) ISO 13485 (Medical devices)

- Kuraray Noritake Dental Inc. (since April 1, 2012)
- Medical Division Kuraray Medical Inc.
- Kuraray Dental Benelux B.V.

#### (3) ISO/TS16949

- (Automotive suppliers and relevant service organizations)
- EVAL Europe N.V.
  - Kuraray Europe GmbH (Division TROSIFOL)
  - OOO TROSIFOL

customer needs and degree of satisfaction, and strive to provide high-quality products for customers.

### Product Complaints Handling

Kuraray emphasizes fast handling of customer complaints regarding quality, in accordance with its quality management system and Regulations on Product Liability-related Accident Response and Quality Complaint Report. We receive the customers' opinions and requests sincerely, and use them in our business activities.

Within the entire Kuraray Group, there were no product recalls or accidents of the sort to cause fires or significant harm to health in fiscal 2011.

## Chemical Substance Management

In accordance with the General Management Regulations for Chemical Substances and other regulations, the Kuraray Group ascertains conformance with laws and regulations and the degree of risk and hazard related to chemical substances at the stages of development, manufacture, and sales. To ensure the safe handling of chemical substances, we have established Safety Data Sheet (SDS\*) Management Regulations regulating our preparation and provision of these sheets, which present information on proper ways of handling products and their degree of hazard. Also, as a provision for future business expansion and changes in chemical-related laws and regulations, we are planning to introduce a centralized system for information management of chemical substances.

Under the EU REACH\* regulations, May 31, 2013 is the deadline for registration of existing chemical substances, more than 100 tons of which we manufacture or import in the EU every year. Through preparations led by the European members of our Group, we are now making provisions for registration.

#### \* Safety Data Sheet (SDS)

SDS provides the detailed and essential information necessary to ensure the safe handling of chemical products, and includes substance names, supplier, category, hazard classification, safety measures and emergency countermeasures.

#### \* REACH (Registration, Evaluation, Authorization and Restriction of Chemicals)

REACH constitutes the EU regulations for chemical products. The REACH regulations incorporate new approaches, mainly as follows: 1) treatment of the risk assessment formerly made by government authorities as a manufacturer obligation, 2) imposition of a requirement for registration of not only new chemical substances but also existing ones by each manufacturer, 3) reinforcement of two-way sharing of information on chemical substance safety and handling through the supply chain, and 4) requirement for determination of information on the presence or absence and, if present, the purpose of chemical substances contained in articles. The regulations became effective in June 2007.

# Approaches to the Environment

Besides aspiring to harmonization with the environment in our business development and provision of products, the Kuraray Group operates an environmental management system in conformance with ISO 14001. By operating that system, we are engaged in ongoing approaches to preserve the environment in various ways, including promotion of measures to prevent global warming, management of chemical substance emissions, and effective use of waste and water resources.

## Environmental Management

### Kuraray Group Action Guidelines for the Global Environment

Kuraray Group has formulated the following basic guidelines and action principles as a basis for engaging in global environmental preservation activities. And we deal with global environmental prevention activities.

#### Basic Guidelines

We fulfill our responsibility to future generations through sustainable corporate activities that are in harmony with the global environment and the local community. In order to achieve these basic guidelines, we will undertake the following activities.

- 1 We will assign the highest priority to the environment and safety in the course of our corporate operations.
- 2 We will work to improve the global environment and ensure its sustainability.
- 3 We will develop technologies and products that contribute to the goal of improving the global environment.

#### Action Principles

- 1 Continual reduction of designated chemical substance emissions into the environment
- 2 Contribution to the prevention of global warming
- 3 Promotion of conservation, reuse and recycling of resources
- 4 Development and supply of technologies for improving the environment and products with low environmental impact
- 5 Utilization of environmentally friendly products
- 6 Public disclosure of environmental information and dialog with the community
- 7 Raising the levels of environmental consciousness and environmental management
- 8 Cooperation with stakeholders

### Promotion Structure for Environmental Preservation

Kuraray's companywide, medium- to long-term environmental preservation activities are facilitated by the Global Warming Prevention Committee and Environmental and Industrial Safety Committee, both of which were established within the CSR Committee. These committees work on promoting global warming solutions, management of chemical substance emissions, and effective use of waste and water resources for the entire Kuraray Group.

### New Medium-Term Environmental Targets

The scope of our current medium-term environmental targets was previously limited to Kuraray sites and domestic Group companies, but the new medium-term environmental targets will apply to the entire Kuraray Group, including overseas affiliated companies. We have determined targets for fiscal 2020 with the aim of achieving environmental efficiency\* at Group companies in Japan and overseas affiliated companies. We have also added the effective use of water resources to these targets as a priority item.

#### \* Environmental efficiency

Environmental efficiency = net sales/environmental load (volume of GHG emission, volume of chemical substances emission, volume of waste generated and amount of water used)

Evaluation ○: achieved ○: largely achieved △: further effort required

	FY2011				New medium-term environmental target		Page ref.
	Scope	Target	Actual performances	Evaluation	Scope	Target (to be achieved by FY2020)	
Global warming prevention	Kuraray sites	GHG Emissions 10% reduction (1,226,000 t-CO <sub>2</sub> ) cf. FY1990 levels	11.4% reduction (1,207,000 t-CO <sub>2</sub> ) cf. FY1990 levels	◎	Domestic Kuraray Group companies	GHG Emissions 40% improvement in environmental efficiency (cf. FY2010 levels)	P. 14-15
		GHG emissions reductions through measures to be implemented in FY2011 Implementation of measures to achieve 2.2% equivalent reduction (30,000 t-CO <sub>2</sub> ) cf. FY1990 levels	Implementation of measures to achieve 2.6% equivalent reduction (36,000 t-CO <sub>2</sub> ) cf. FY1990 levels	◎	Overseas affiliated companies	Energy Usage* 10% improvement in environmental efficiency (cf. 2010 levels)	
Management of chemical substance emissions	Although Kuraray is continuing with activities to reduce chemical substance emissions at our plants, we have not set a total reduction target for domestic Group companies.				Domestic Kuraray Group companies	Emissions of the JCIA's PRTR-designated substances JCIA = Japan Chemical Industry Association 100% improvement in environmental efficiency (cf. FY2010 levels)	P. 15
Effective utilization of waste resources	Domestic Kuraray Group Companies	Effective waste utilization rate Over 90%	95%	◎	Domestic Kuraray Group companies	Waste generation 10% improvement in environmental efficiency (cf. FY2010 levels)	P. 15-16
		Measures to control waste generation implemented in FY2011 1% equivalent reduction (745 t) cf. FY2010 levels	4.7% equivalent reduction (3,494 t) cf. FY2010 levels	◎	Overseas affiliated companies	Waste generation 10% improvement in environmental efficiency (cf. 2010 levels)	
Effective utilization of water resources	-	-	-	-	Domestic Kuraray Group companies	By FY2014, we will assess our current situation and revise water use. Then in FY2015, we will set specific target values.	P. 16
		-	-	-	Overseas affiliated companies	Water Usage (excluding seawater) 10% improvement in environmental efficiency (cf. 2010 levels)	

\* Almost all electric power and steam is purchased from external sources at Kuraray's overseas affiliated companies. Because the source of supply has a large effect on GHG emissions (changes in emission factor), we have adopted energy usage that is not affected by supply source in order to properly evaluate the activities of our overseas affiliated companies.

## Global Warming Prevention

As part of our new medium-term environmental plan, we have set the targets of a 40% improvement in the environmental efficiency of GHG emissions at domestic Kuraray Group companies and a 10% improvement in the environmental efficiency of energy usage at overseas affiliated companies. Both targets are relative to fiscal 2010 levels. Through GHG emission reduction measures in fiscal 2011, the domestic Kuraray Group companies had achieved a 1% improvement in environmental efficiency relative to fiscal 2010. At overseas affiliated companies, meanwhile, a large improvement of 8% relative to fiscal 2010 was achieved through measures such as revision of production conditions to reduce the use of steam.

GHG emissions in fiscal 2011 in Kuraray Group were 1,733,000 tons (an increase of 4,000 tons from fiscal 2010).

- Domestic group companies: 1,257,000 tons  
Kuraray Sites .....1,207,000 tons  
Domestic affiliated companies .....50,000 tons
- Overseas affiliated companies: 476,000 tons

Reduction measures implemented in fiscal 2011 included the launch of operation of a high-efficiency gas engine generator at the Niigata Plant (3,000 tons-CO<sub>2</sub>, and an estimated 13,000 tons-CO<sub>2</sub> in fiscal 2012), reduction in the use of fossil fuels at the Kurashiki Plant through expanded use of waste and

other products as biomass fuel for biomass energy generation (13,000 tons-CO<sub>2</sub>), and the installation of energy-saving devices and revised production conditions at each plant, which resulted in a reduction of 36,000 tons of GHG emissions.

### Biomass Power Generation

In 2002, Kuraray introduced biomass fuel (i.e. scrap wood from building demolition) as a replacement for coal, which had been the major fuel source for the boiler at our Kurashiki Plant (Tamashima). In fiscal 2011, our usage of biomass fuel greatly increased compared to the previous fiscal year, because of expanded supply sources for biomass fuel and soaring prices for coal. This contributed to a reduction of CO<sub>2</sub> emissions.

### High-Efficiency Gas Engine Power Generation

At our Niigata Plant, we installed a high-efficiency gas engine which uses natural gas as its fuel source. Because of that, we achieved an appropriate supply of power and steam in a low environmental load. We expect that this will contribute to a reduction in CO<sub>2</sub> emissions throughout fiscal 2012.

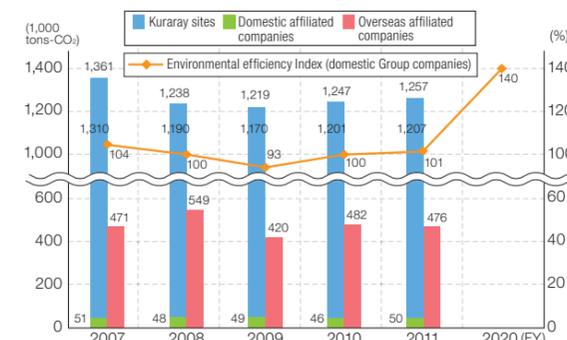


Gas engine power generation facility

### Educational Activities

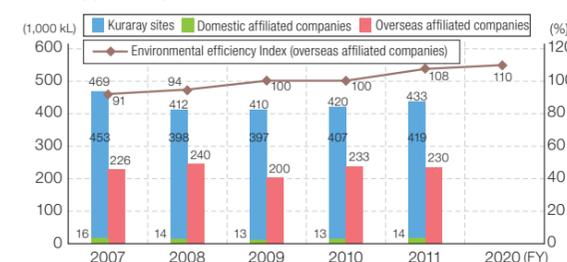
Besides working to reduce environmental load in our production activities, all Kuraray sites actively participate in environmental activities sponsored by prefectural and municipal governments. In fiscal 2011, our Kashima Plant got a prize in the environmental management category of Ibaraki Prefecture's Environmentally Friendly Business Awards for the Plant's successful efforts to implement concrete environmental preservation activities. Additionally, our Okayama Plant participated in Okayama Prefecture's Energy Saving Summer Challenge, and we received a certificate of appreciation for the positive energy saving efforts made by the approximately 500 households of the Plant's employees.

### GHG Emissions



\* The amount of CO<sub>2</sub> emissions deriving from the electrical power purchased by domestic Kuraray Group companies is based on the adjusted emission coefficient beginning from FY2009

### Energy Usage in Crude Oil Equivalent



### Reduction of Environmental Load during Transportation

The amended Act on the Rational Use of Energy contains the target of reducing the specific energy consumption\* by an average of more than 1% per year. To attain this target, Kuraray is taking various steps for more efficient transportation, including modal shift\*. In fiscal 2011, our CO<sub>2</sub> emissions came to 11,800 tons, down by 500 tons (3.9%) from fiscal 2010, in spite of increasing in sales. In terms of specific energy consumption, we achieved a decrease averaging

4.2% annually (relative to fiscal 2006) over the five-year period beginning in fiscal 2007.

**\* Specific energy consumption**  
An indicator for the improvement in energy use in reports to the Ministry of Economy, Trade and Industry, which is calculated by dividing the amount of energy used by a value closely related to the amount of energy used (sales amount in Kuraray's case). i.e. amount of energy use ÷ a value closely related to the amount of energy use ("sales" in Kuraray's case)

**\* Modal shift**  
Switching mode of transportation from trucks to rail or sea transport, which has less environmental load.

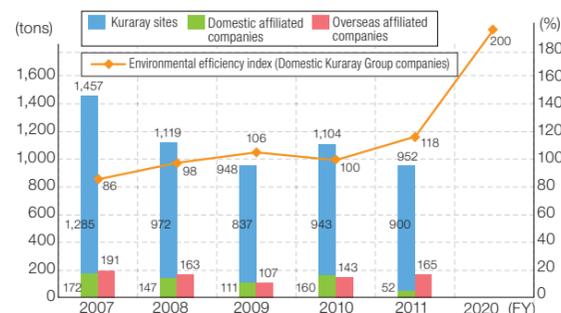
## Management of Chemical Substance Emissions

We improved the environmental efficiency of the domestic Kuraray Group companies in fiscal 2011 by 18 percent compared to fiscal 2010. That was completed through emissions-reducing measures such as detoxification treatment of cyclohexane and other substances at our Kashima Plant and changeover to inorganic solvents for adhesive manufacture at Kuraray Plastic Co., Ltd., which achieved a 153 ton reduction compared to fiscal 2010.

In fiscal 2011, total chemical substance emissions

for the entire Kuraray Group were 1,117 tons, a decrease of 130 tons over the previous fiscal year. The emission of chemical substances subject to JCIA's PRTR\* program came to 952 tons for domestic Kuraray Group companies (900 tons from Kuraray sites and 52 tons from domestic affiliated companies) and 165 tons from overseas affiliated companies.

### Trend in Emissions of JCIA's PRTR-designated Substances



**\* JCIA's PRTR**

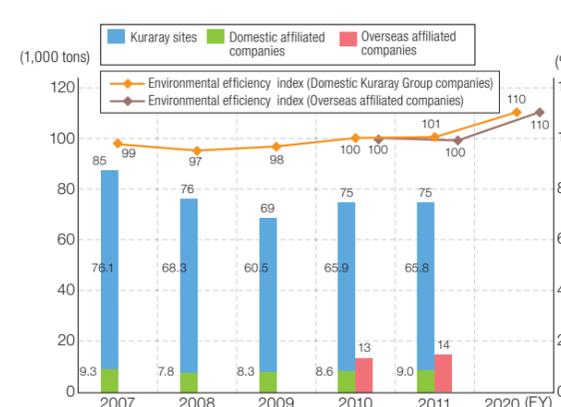
This program means grasping the accurate amount of PRTR-designated chemical substance emissions and making voluntary efforts to reduce them. Kuraray has participated in a (JCIA) program in this area since before the enactment of the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR Act). Through the JCIA's PRTR program, 434 chemical substances have been targeted (328 of which are designated by the PRTR Act), and the domestic Kuraray Group companies handle 74 of these chemicals, including 56 chemical substances designated by the PRTR Act.

## Effective Utilization of Waste Materials

Since fiscal 2007, the domestic Kuraray Group companies have maintained a rate of more than 90% for effective utilization of waste and a final landfill disposal rate of 1% or less. Since fiscal 2009, these activities have been implemented to maintain the effective utilization rate and final landfill disposal rate, and new activities to reduce the generation of waste are being promoted.

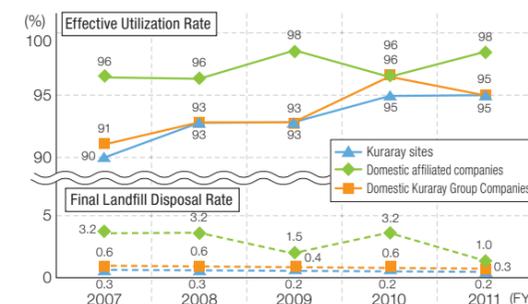
Waste generation levels are themselves strongly influenced by production volume. Focusing on the amount of decrease through waste generation-reducing measures, we set the target of reducing waste generation in fiscal 2011 by an amount equivalent to 1% or more of the amount generated in fiscal 2010. Each site took measures including recycling of waste

### Trend in the Amount of Waste Generated

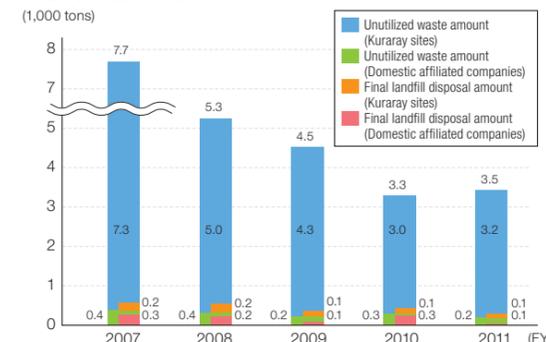


products and products which do not meet standards and optimization of production facility operating conditions. As a result, the domestic Kuraray Group companies reduced waste generation by 3,494 tons (4.7% relative to the fiscal 2010 level). Compared to fiscal 2010, environmental efficiency was improved by 1%.

### Trends in Rates of Effective Waste Utilization and Final Landfill Disposal



### Trend in the Amount of Unutilized Processed Industrial Waste

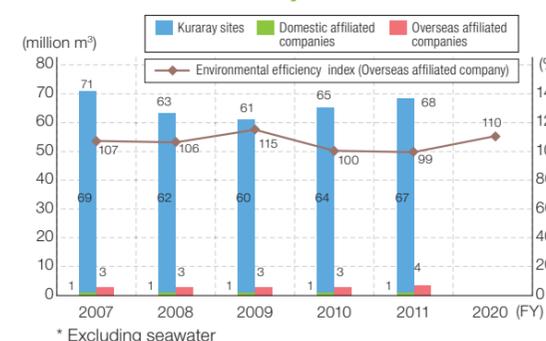


## Effective Utilization of Water Resources

In recent years, global attention on water resources has been heightened. Of the earth's water resources, 2.5% is fresh water and of this less than 0.8% is in a form that is usable such as underground water, river water and lake water. As the Kuraray Group uses large amounts of fresh water in our daily production activities, we have added "effective utilization of water resources" to our

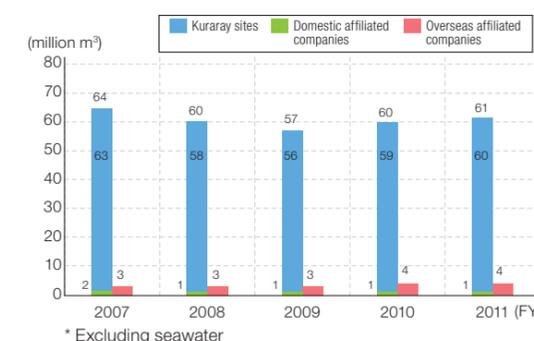
environmental activities list. Over the next three years, the domestic Kuraray Group companies will investigate measures to effectively utilize water and in 2015 we will decide whether we should set numerical targets. Overseas affiliated companies will strive to achieve a 10% improvement in the environmental efficiency index by fiscal 2020 compared to fiscal 2010 levels.

### Trends in Water Utilization and Environmental Efficiency



\* Excluding seawater

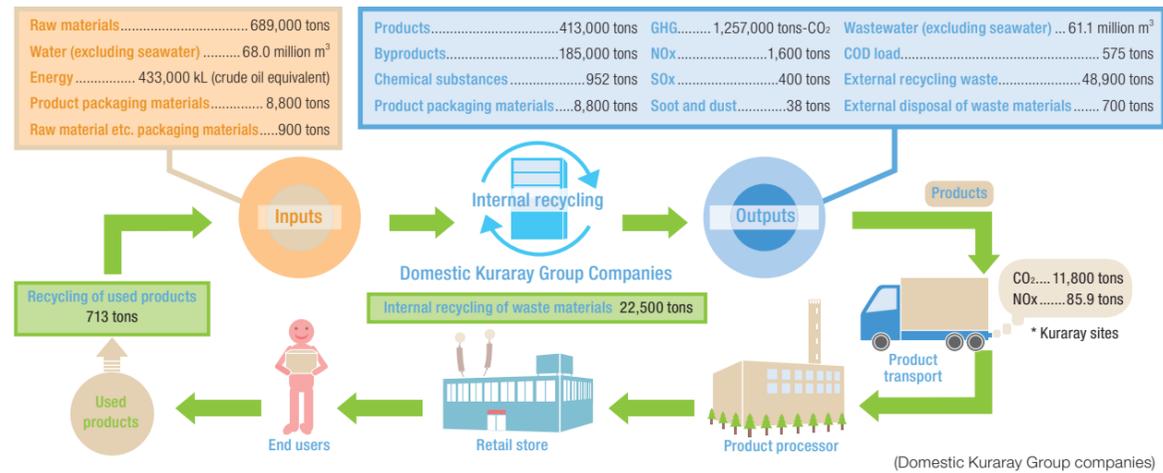
### Trends in Waste Water



\* Excluding seawater

## Material Flow in Business Activities (Fiscal 2011)

The Kuraray Group uses a great deal of energy, chemical substances, and water resources in the course of our business activities. We make quantitative surveys of used resources and emitted substances, and use this information to minimize the environmental load associated with our business activities.



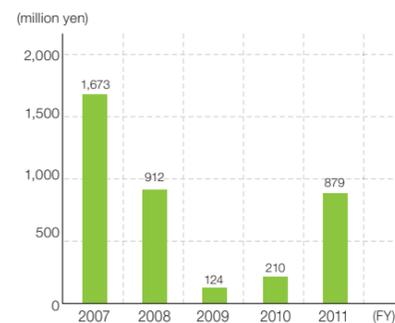
## Environmental Accounting

### Environmental Preservation Costs (million yen)

Category	Investments	Cost	Principal activities
Costs within the sites	Pollution prevention costs	375 / 1,462	Operating cost of environmental facilities, measures to prevent emissions of chemical substances
	Global environmental preservation costs	276 / 11	Installation of gas engine electricity generation facilities
	Resource recycling costs	166 / 519	Transformation of production process scrap into a resource
<b>Total</b>	<b>817</b>	<b>1,992</b>	
Upstream and downstream costs	—	129	Recycling and reuse of packaging materials, improvement of container packaging
Administrative costs	60	118	ISO 14001, environmental measurements, environmental education
Research and development costs	3	103	Development of environmentally friendly products
Social activity costs	—	0	Afforestation, beautification, provision of environmental information to host community residents
Environmental damage costs	—	0	
<b>Total</b>	<b>879</b>	<b>2,342</b>	

● Total investment during the reporting period: 29.1 billion yen (totalled in accordance with the scope of environmental accounting)  
● Total R&D costs during the reporting period: 12.8 billion yen (same as above)

### Investment in Environmental Facilities



### Environmental Preservation Effects

Category	Unit	FY2010	FY2011	Difference
Pollution prevention effect	SOx emissions	430	375	(55)
	NOx emissions	1,528	1,516	(12)
	Soot and dust emissions	27	22	(5)
	PRTR substance emissions	943	900	(43)
	COD load	583	573	(10)
Global environment preservation activities	GHG emissions	1,201	1,207	6
	Energy consumption	407	419	12
Resource recycling activities	Unutilized externally processed industrial waste	422	511	89
	Rate of effective waste utilization	95.5	95.1	(0.4)
	Water resource usage*	64	67	3
	Total discharge of wastewater*	59	60	1

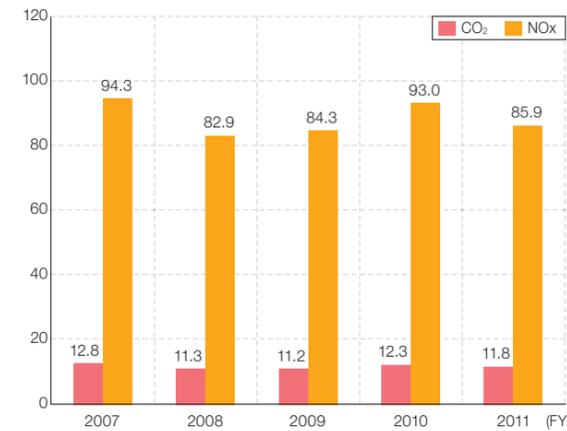
\* Excluding seawater

- Basis for environmental accounting calculations
  - Reporting period: April 1, 2011 to March 31, 2012
  - Scope covered: Kuraray sites
- Environmental preservation cost calculation criteria
  - Depreciation: Straight-line method
  - Standard for allocating costs: In principle 100% of costs are allocated to individual environmental preservation items. However, a portion of costs is allocated on a pro rata basis.
- Standard for calculating environmental preservation effects
  - Effects are calculated in a simple comparison with the total environmental load of the previous fiscal year and are not adjusted for production volume.
- Standard for calculating economic effects (benefits) of environmental preservation measures
  - Although material effects such as income from recycling are known, benefits are deducted from environmental preservation costs.

## Environmental Data

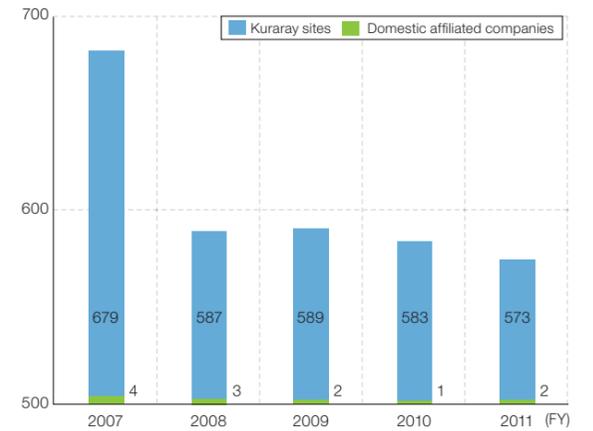
### Reducing the Environmental Load during Transportation (Kuraray sites)

#### CO<sub>2</sub> and NOx Emissions during Transportation (CO<sub>2</sub>: 1,000 tons/NOx: tons)



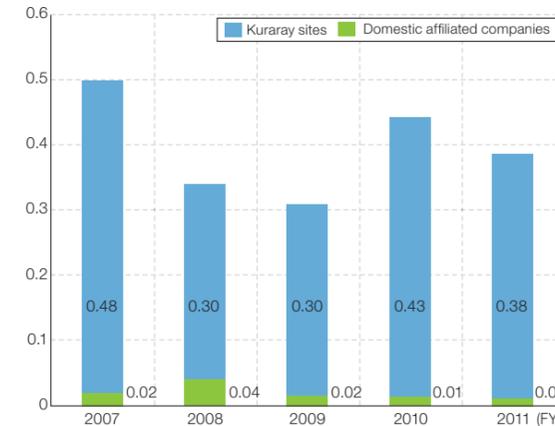
### Water Pollution Prevention

#### COD Load (tons)

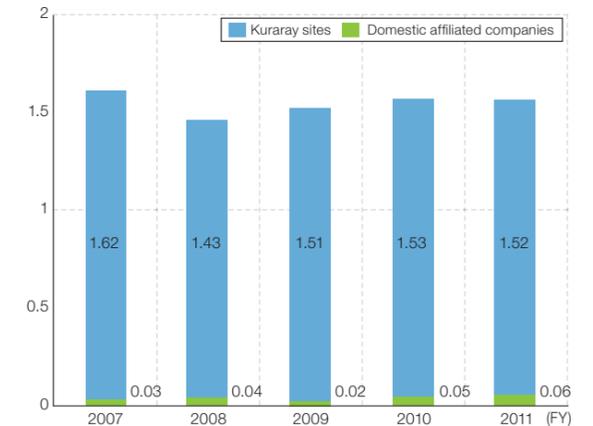


### Air Pollution Prevention

#### SOx Emissions (1,000 tons)



#### NOx Emissions (1,000 tons)



## Environmental Management System (ISO 14001) Certifications

- Kuraray Niigata Plant
- Kuraray Okayama Plant
- Kuraray Kashima Plant
- Kuraray Kurashiki Plant (including Kurashiki Research Center)
- Kuraray Tsukuba Research Center
- Kuraray Saijo Plant
- Kuraray Chemical Co., Ltd. (Tsurumi Plant)
- Kuraray Plastics Co., Ltd. (Ibuki Plant)
- Kuraray Fastening Co., Ltd. (Maruoka Plant)
- Kuraray America, Inc. (EVAL BU, SEPTON BU)
- EVAL Europe N.V.
- Kuraray Europe GmbH (PVA/PVB Division, Trosifol Division)
- OOO TROSIFOL
- Kuraray Asia Pacific Pte. Ltd.

\* Note: The following affiliated companies occupying the same premises as Kuraray plants are included.  
Kuraray Kuraflex Co., Ltd., Kuraray Okayama Spinning Co., Ltd., Kuraray Tamashima Co., Ltd., Kuraray Saijo Co., Ltd., Kuraray Engineering Co., Ltd., Kuraray Techno Co., Ltd., Kyosei Chemical Co., Ltd., Kuraray Noritake Dental Inc. (since April 1, 2012)

# Approaches with the Community

We in the Kuraray Group consider the sound and sustainable advancement of society a precondition for corporate growth and prosperity, as well as the ultimate objective of corporate activities. It goes without saying that we see it as our duty to contribute to society through provision of products of genuine value to people. Beyond this, we consider assistance with the resolution of social issues within an appropriate scope to be another important form of social contribution in our capacity as a corporate citizen.

## Social Contribution Activities

The Kuraray Group applies its ingenuity and initiative to promoting social contribution activities on an ongoing basis in the fields of education, medicine and welfare. We also support volunteer work by our employees toward the goal of harmony with local communities.

### Chemistry Classes for Boys and Girls

Kuraray conducts the "Chemistry Classes for Boys and Girls" program with the goal of enabling elementary school students to experience the fun of chemistry through hands-on experiments.

From 1992, this program has been held every year in each plant, and Kuraray employees volunteer to serve as instructors or assistants to conduct classes at special classrooms on plant premises and at local elementary schools and public facilities. Since 2002, we have been exhibiting at Dream Chemistry-21, a chemistry experiment show for children held by the Japan Chemical Industry Association. In fiscal 2011, a total of 449 children participated in 12 sessions of "Chemistry Classes for Boys and Girls," bringing the number of classes we have held to over 200. At Dream Chemistry-21, our experiment for production of aromatics using highly water-absorbent resin attracted the participation of about 1,200 children and their parents.

In October 2011, we were awarded a prize at the Chemistry Communication Awards sponsored by Japan Union of Chemical Science and Technology in recognition of our activities over the past 20 years.

#### Chemistry Classes for Boys and Girls Held

Plant	Class name	No. of classes to date	No. of participants to date
Kurashiki Plant	Fun Chemistry House	59	1,662
Saijo Plant	Exciting Chemistry Class	56	1,667
Okayama Plant	Fun Chemistry Class	34	1,138
Niigata Plant	Wondrous Laboratory	44	1,412
Kashima Plant	Fun Chemistry Class	11	861
<b>Total</b>		<b>204</b>	<b>6,740</b>



Fun Chemistry Class (Okayama Plant)

### Sending School Bags across the Sea

"Sending School Bags across the Sea" is an annual program of international cooperation under which we send school bags once used by Japanese elementary school students along with school supplies and letters to children in Afghanistan and other countries where wartime devastation has robbed children of schooling opportunities.

The year 2011 marked the eighth year since the start of the program in 2004. The program has been steadily expanding and we received some 10,000 school bags from all parts of the country in 2011. Filled with the good wishes of the children, the bags are sorted and packed by the members of the JOICFP (Japanese Organization for International Cooperation in Family Planning) and other affiliated groups as well as Kuraray Group employees, before being sent overseas with the cooperation of many other volunteers. This year, we again delivered bags to children in need of them.

In efforts to widen the scope of our activities, we continued to participate in the Himalaya Project held at Akita Prefectural University to bring electric lights to elementary schools in Himalayan villages. Through this project, we presented school bags and stationery supplies to Nepalese children.



Children in Afghanistan (photo provided by JOICFP)



Children in Nepal (photo provided by the Akita Prefectural University Himalaya Project)



Volunteers who gathered to check and pack bags

### Support for Independent Life of the Mentally Challenged

To help those with disabilities lead self-sufficient lives by providing them with opportunities for employment, Kuraray sets up workplaces especially for the mentally challenged in coordination with local welfare facilities.

The Kuraray Workshop at the Niigata Plant opened its doors as a place of work for the mentally challenged in 1997, with the cooperation of Nakajo town (the current city of Tainai) and the Nanahokai social welfare organization's "Niji-no-ie." Employees at the workshop perform sorting for recycling of scrap material generated in production processes and produce articles. At the Himawari Workshop, which opened on the grounds of the Saijo Plant in 2007, employees engage in recovery and weighing work required for recycling of leftover fiber generated in production processes.

In February 2011, we also opened Aozora Works at our Kashima Plant with the help of the social welfare organization Kamisu Keiai-en. The workers there have begun making bags for packaging liquid resin.



Kuraray Workshop (Niigata Plant)



Himawari Workshop (Saijo Plant)

With the inclusion of those engaged in the tasks of cleaning work clothes and affixing labels to dental materials at our Kurashiki Plant, we employ 10 instructors and 33 workers with disabilities at a total of four locations.

### Support for Medical and Welfare Facilities

Magosaburo Ohara, our founder, also helped to pioneer philanthropy in Japan, and was involved in the establishment of numerous medical, welfare, and cultural/research facilities. As part of its social contribution activities, the Kuraray Group continues to offer support in the management aspect to the Ishii Memorial Aizen-en, Ohara Museum of Art, Kurashiki Central Hospital, and Doushinkai Saijo Central Hospital. In addition, we operate a nursing facility for the aged using welfare facilities in our plants.



Aizenbashi Hospital



Kurashiki Central Hospital



Saijo Central Hospital

Kuraray America provides the La Porte Education Foundation with support through donations as well as volunteers. Every year, some employees collect donations and participate in "Dollar Patrol," where teachers are presented checks to fund grant requests to enhance education.



Dollar Patrol

## Relief and Assistance in Response to the Great East Japan Earthquake

In response to the Great East Japan Earthquake, all sites of the Kuraray Group collected donations from employees, mainly through the Kuraray Fureai Fund\*, while affiliated companies both inside and outside Japan made donations under "matching gift" arrangements. In addition, our Niigata Plant opened company housing to evacuees. As this indicates, our Group provided relief and assistance for the affected

areas in various forms. Employees also participated through their labor unions in voluntary relief activities in the disaster zone.

### \* Kuraray Fureai Fund

We set up Kuraray Fureai Fund in July 1992. Under this fund, companies make donations consisting of the donations made by their employees plus a matching gift of the same amount. Employees endorsing the Fund agree to donate a fractional amount of less than 100 yen from their salaries, and the company matches this amount. The funds collected in this way are used for purchase of items for donation to social welfare organizations or other such parties, for contribution to the good of society.

## Communication with the Regional Community

### Plant Tours and Briefing Sessions

Kuraray plants and the plants of Kuraray Plastics Co., Ltd., Kuraray Chemical Co., Ltd. and Kuraray Fastening Co., Ltd. hold tours and regular briefing sessions for the purpose of communication with local

residents. In fiscal 2011, such activities attracted a total of 2,976 participants, and served to deepen their understanding of activities at these sites.

### Interchange with Local Residents

Our Saijo and Niigata plants each stage a Cherry Blossom Viewing Party when the cherry trees on their grounds have flowered. In fiscal 2011, a combined total of approximately 10,000 people visited their grounds to admire the trees in full bloom. In December, our Kurashiki Plant opened its gates to local residents for the staging of a Christmas Fantasy event whose centerpiece is a Himalayan cedar decorated and illuminated like a Christmas tree. Various events were held inside and outside Japan in 2011 to mark 150 years of friendship between Germany and Japan. Kuraray Europe GmbH was the main sponsor of Japan Week in Frankfurt, and many of the company's employees participated in the related events and played a role in the cultural exchange between Germany and Japan.

### Major Activities at Kuraray Plants

Plant	Activities
Kurashiki Plant	Christmas Fantasy, Children's Ball Games Meet, Summer Festival, Ground Golf Tournament
Saijo Plant	Cherry Blossom Viewing Party, Kenaf Cultivation, Summer Festival
Niigata Plant	Cherry Blossom Viewing Party, Junior High School Soft Tennis Meet, Summer Festival
Okayama Plant	Volleyball for Moms Meet, Children's Ball Games Meet, Summer Festival
Kashima Plant	Volleyball for Moms Meet
Kuraray Chemical Co., Ltd.	Summer Festival
Kuraray Plastics Co., Ltd.	Summer Festival



Christmas Fantasy Event (Kurashiki Plant)



Cherry Blossom Viewing Party (Saijo Plant)



Japan Week (Frankfurt)

## CSR Procurement

### CSR Procurement Policy

#### Respect for human rights

- 1 Respect for human rights and individuality
- 2 Observance of the International Labor Organization's core labor standards
  - Guarantee of freedom of association and the right to collective bargaining
  - Prohibition of compulsory labor
  - Prohibition of child labor

#### Compliance

- Compliance policy
- Compliance systems
- Compliance education program

#### Promotion of green procurement

- Preparation of environmental policies and environmental reports
- Green procurement implementation plan and implementation apparatus
- ISO 14001 certification
- Education and awareness campaign for green procurement

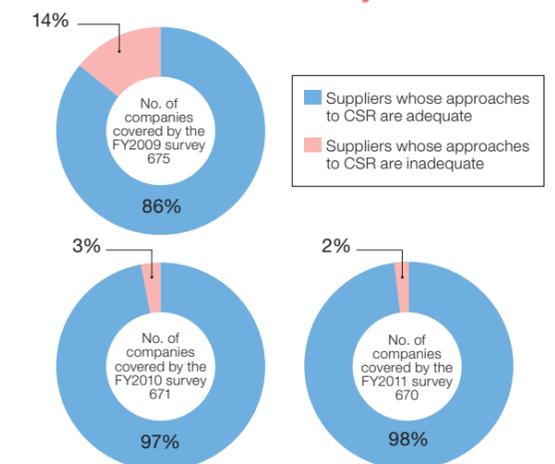
### Status of Activities

We requested a total of 20 suppliers whose approaches to CSR procurement were deemed inadequate in the fiscal 2011 survey to take more aggressive action. As a result, approaches were found to be adequate at 5 of these firms and still inadequate at 14. Of the 670 suppliers covered by the survey, approaches are now deemed adequate at 98% of them.

#### Criterion for determining adequacy of CSR activities

Implementation of eight or more items out of the eleven items set forth in the CSR Procurement Policy

### Results of the CSR Survey



### Green Purchasing

As a part of its CSR procurement activities, Kuraray preferentially purchases environmentally friendly (green) products in line with its Green Purchasing Guidelines, which was revised in fiscal 2009.

### Table of Green Purchasing Practices

Field	Item	Purchasing amount (millions of yen)	Green purchasing rate			
			FY2010	FY2011		
1	Paper (recycle)	3 items	Copier paper, printing paper, toilet paper	49	16%	3%
2	Stationery (recycle)	82 items	Mechanical pencils, ballpoint pens, magic markers, pencils, etc.	18	60%	73%
3	Office supplies (reuse)	10 items	Chairs, desks, shelves, umbrella stands, storage items, bulletin boards, low partitions, coat hangers, blackboards, white boards	11	86%	90%
4	OA equipment (energy conservation)	4 items	Personal computers, printers, copiers, fax machines	79 (leasing fee)	100%	100%
5	Home electrical appliances (energy conservation)	2 items	Refrigerators, TVs	2	93%	80%
6	Lighting (energy conservation)	2 items	Fluorescent lamps, bulb-type lamps	3	69%	65%
7	Automobiles (reduced environmental pollution)	1 item	Automobiles	69 (leasing fee)	96%	99%
8	Uniforms and work clothes (recycle)	2 items	Uniforms (for female employees at headquarters), work clothes*	22	100%	100%
9	Fire extinguisher	1 item	Fire extinguisher	16	81%	93%

\* As the company uniform for female employees at headquarters was abolished, the results are for work clothes only.

# Approaches in the Workplace

Through the Kuraray Group Global Human Resources (HR) Policy, Kuraray Group is making efforts to develop its organizational system regarding promotion of diversity, fostering of human resources, and fair and just evaluation of performances as well as establishing a healthy corporate culture and creating new employment opportunities, so that each employee can work in a way which leads to personal growth through the fulfillment of his or her duties.

## The Kuraray Group Global HR Policy

- We will respect the human rights of individuals.**  
Based upon our Corporate Philosophy, "Respect for individuals," we will respect the individual character and the human rights of all people working in the Group. Any abuse of human rights, such as sexual harassment, bullying, child labor, forced labor and so on, should be eliminated.
- We will abolish discrimination and respect diversity and individuality.**  
In all aspects of HR activities, including hiring, treatment, personnel development, assignment and evaluation, no distinction unrelated to work ability and performance, nor discrimination based upon individual attributes such as race, nationality, gender or beliefs, shall be allowed. We will esteem and promote diversity that accepts the personal traits, culture and worldview of people from various nations.
- We will carry out our HR activities in full compliance with applicable laws and regulations.**  
We will strictly comply with applicable laws and regulations of each country in carrying out the implementation of personnel policies.
- We will create HR systems that uphold equality, fairness and transparency.**  
In implementing our HR policies, we will give full consideration to equality, fairness and transparency, and will seek due satisfaction to all of the Group employees.
- We will strive to improve the environment of workplaces.**  
From the perspective of occupational health and safety, we will strive to maintain working environments that enable people to work safely and with regard for their physical and mental health.
- We will strive to employ personnel who are able to contribute to the development of the Kuraray Group.**  
We will employ people who are highly skilled and knowledgeable, and who possess a sound sense of morals and ethics, as well as the desire to make significant contributions to the development of the Kuraray Group.
- We will place the right person in the right job.**  
We will place each individual in its right job, in due consideration of capabilities, knowledge, suitability and skill development, with an aim to maximizing operational contributions and job satisfaction.
- We will implement evaluation and benefits systems that are fairly satisfactory.**  
We shall implement an evaluation and benefits systems that is fairly satisfactory to employees, with a focus on job description, exercise of potential, performance, attitude and action through dialogue with evaluations.
- We will support professional development.**  
We will provide an appropriate level of support for job skill development with a focus on development through performance of individual works.
- We will foster communication and maintain appropriate levels of disclosure.**  
So that all Kuraray Group personnel may possess a sense of unity in working toward the fulfillment of a shared mission, we will provide appropriate levels of disclosure and conduct direct and indirect communications with them.

## Basic Employee Data

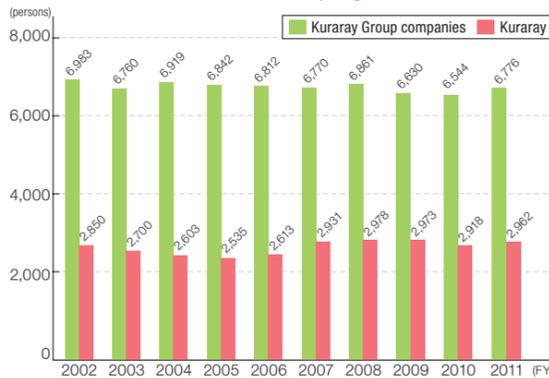
### Number of Employees

As of March 31, 2012

	Total	Male	Female
Kuraray Group as a whole	6,776	5,806	970
Kuraray only	2,962	2,690	272

\* Group = consolidated subsidiaries

### Trend in the Number of Employees



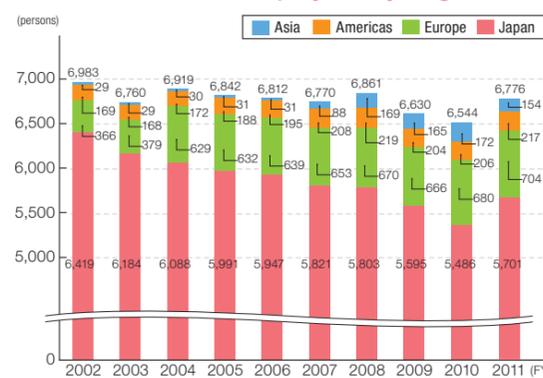
### Employee Turnover Rate

FY2011

	No. of those leaving employment	Turnover rate
Personal reasons	26	0.9%
Retirement	47	1.6%

\* Turnover rate = Number of those leaving employment by cause/Number of Kuraray's employees at the beginning of the fiscal period

### Trend in Number of Employees by Region

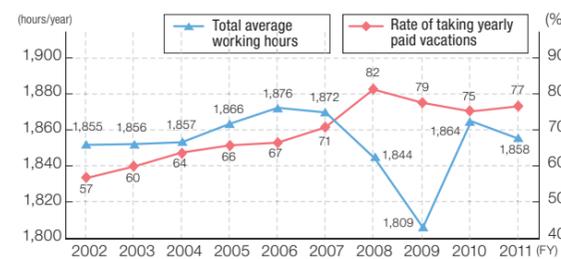


## Diversity and Work-Life Balance

### Employment Systems and Average Working Hours

Kuraray has instated systems for flexibility in employment. The main such systems are discretionary labor systems for adaptation to the nature of individual work, the "de facto working hour" system for out-of-office works, and variational working hours. We also have no-overtime days and are striving to improve the rate of taking yearly paid vacations.

### Trend in Total Average Working Hours and Rate of Taking Yearly Paid Vacations (Kuraray)



### Leave for Childcare and Nursing Care

Kuraray has introduced a system for support of childcare and nursing care by employees as infrastructure to support a good work-life balance.

In consideration of the timing of admission into a day-care center, employees are allowed to take childcare leave either until the end of April in the year after the child turns one or until the child is one year and six months old, whichever is longer. We recommend male employees to take childcare leave to encourage more fathers to get involved in child rearing.

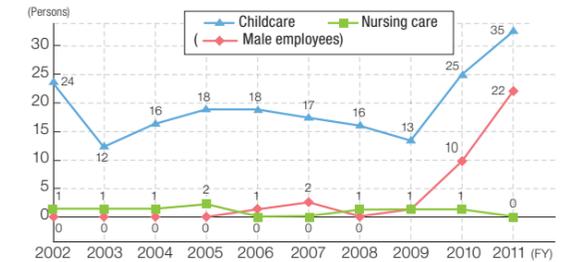
Employees can also use our reduced working hour system for childcare up to the point when the child finishes the third year of elementary school. Almost all of the female employees who gave birth avail themselves of these systems.

Provisions for leave and reduced working hours for nursing care up to one year each, for a total of two years maximum, are available to employees.

Kuraray was certified by the Minister of Health, Labour and Welfare upon achievement of its action plan in accordance with the Act on Advancement of Measures to Support Raising Next-Generation Children in March 2007 and March 2009. We are now working on the third-stage action plan for the period between fiscal 2009 and 2012.



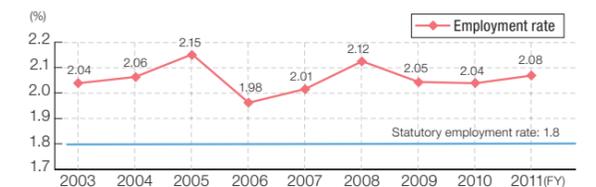
### Number of Employees Taking Leave for Childcare/Nursing Care (Kuraray)



### Employment of Disabled Persons

Kuraray not only attains the statutory employment rate of 1.8% but also has taken other action to help the disabled lead self-sufficient lives, such as the establishment of workplaces especially for the mentally challenged in coordination with local welfare facilities (see page 20).

### Rate of Employment of Disabled Persons (Kuraray)



### Other Provisions

#### (1) Support for Social Contribution

Kuraray employees may use accumulated yearly paid vacations, which ordinarily lapses with the prescribed passage of time, as special vacations (up to 60 days a year) for social contribution activities. We have also made provisions for social contribution leave, and support diverse activities of this type by our employees.

#### (2) Refresh Vacations

On the occasion of commendation for 25 years of continuous service, employees may choose to receive a travel voucher for an award. In this case, they may take special vacations to go on a trip with this voucher.

#### (3) Life Planning Support

Kuraray offers employees life planning courses for each stage of life. We have also introduced web tools that are tailored to our wage and retirement benefit systems so that employees can simulate their future income and expenditure at home.

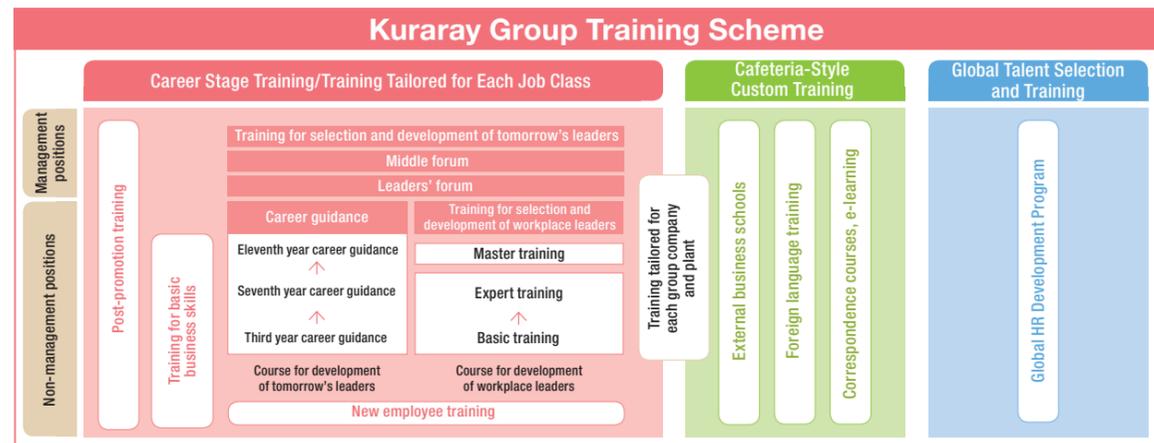
## Human Resource Development and Assessment

For the domestic Kuraray Group companies, we have established a companywide training scheme to support acquisition of the knowledge and skills required for jobs and career-building efforts by employees themselves.

The training is open not only to regular employees but also part-time and contract-based ones, as necessary. In addition, Kuraray plants and group

companies plan and implement their own training programs and provide their employees with finely-tuned support for skill development and career-building.

Kuraray also has an incentive system under which it furnishes grants for acquisition of certain public qualifications by employees for their own self-improvement.

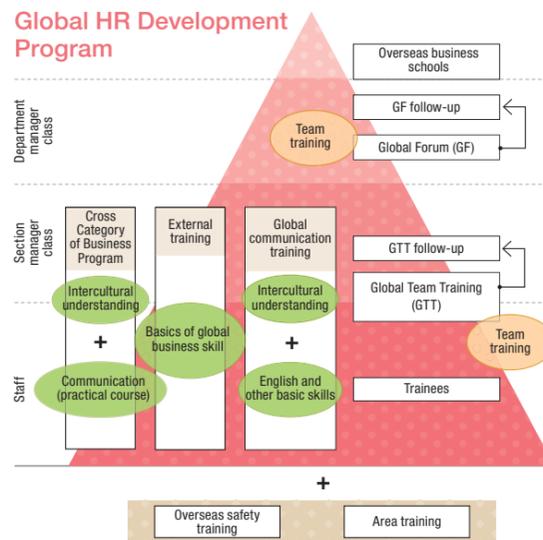


### Global HR Development Program

In fiscal 2007, we started the Global HR Development Program for all employees of the Kuraray Group, including those outside Japan. The purpose of the Program is early development of personnel equipped for business on a global scale.

Under the Program, we plan and execute a wide variety of activities, including the Global Forum (GF) and Global Team Training (GTT) for group training at overseas sites, the Overseas Business School offering open classes at business schools in other countries, trainee programs for mutual dispatch of employees between group companies inside and outside Japan, and an external training scheme utilizing open courses at external institutions in Japan. Over the three-year period ending with fiscal 2009, the Program attracted about 160 participants both from Japan and overseas.

Since fiscal 2010, we have planned and executed other programs in addition to the existing ones. These include the global communication training revolving around language and intercultural training, Cross Category of Business Program jointly conducted with other firms, and follow-up programs for graduates of GF and GTT. In the two years up to fiscal 2011, around 200 participants completed these courses.



### A Fair, Impartial, and Transparent HR System

Kuraray has instated a personnel system in which elements such as improvement of job execution capabilities, performance, roles, and spirit to challenge demanding targets (as opposed to seniority and personal factors) are reflected in remuneration.

Specifically, we instated a scheme of role ranks

for management positions, under which remuneration slides with the role and performance, and one of skill qualifications for ordinary employees, under which remuneration reflects the extent of skills and performance. Wages and bonuses are determined on the basis of these schemes. We have also incorporated a scheme whereby personnel can change education courses to suit their desired career paths.

With regard to personnel evaluation, we instated

a scheme of target-based management in which actual employee performance is rated with reference to targets for duties and skill development set through consultation with superiors. We also provide ongoing training for personnel making the evaluations.

In addition, we periodically conduct surveys of employee awareness to ascertain how employees feel about their job and workplace, and what changes they would like to see. We use the findings for improvement of schemes and the workplace environment.

## Occupational Health

To provide a workplace environment where it is possible to work in both a physically and mentally safe and healthy manner, we formulated the Kuraray Basic Policy on Occupational Health.

### Kuraray Basic Policy on Occupational Health

In keeping with the Principles for Business Conduct, the Kuraray Group recognizes that ensuring the safety and health of employees and other stakeholders is the basis of a company's business activity. Kuraray strives to provide a healthy and safe work environment for its employees and engages in health promotion activities.

### Mental Health

Kuraray has mounted a companywide approach to mental health measures aimed at preventing stress-related conditions that have been on the rise in society as a whole in recent years.

#### (1) Training for Prevention

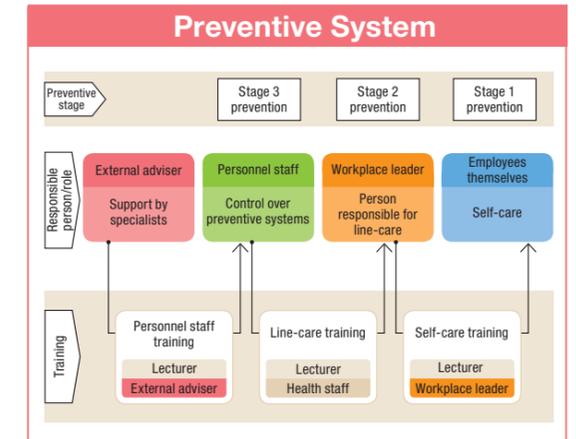
With guidance from the Institute for Science of Labour, we continue to implement training for self-care (action taken by employees themselves) and line-care (action taken by managers and workplace leaders) with an awareness that the employees themselves as well as their superiors and personnel staff are the principals of initiatives to maintain mental health.

#### (2) Mental Health Counseling Office

Kuraray has established counseling offices both inside and outside the company, and prepared arrangements that make it easy for employees to get counseling over the phone or through face-to-face meetings. To prevent mental difficulties caused by long working hours, we have employees who work a lot of overtime receive a health examination by industrial physicians and health care staff.

#### (3) Assistance with Return to the Workplace

We instated a rehabilitative attendance system to support a phased return to the workplace by employees who have been off the job for a long time.



### Support for Building Health

To promote the health of its employees, Kuraray is deploying a companywide program for improvement of life habits under the banner "Health Up Strategy." In this program, each employee sets his or her own goals (for amounts of exercise, eating, etc.) and works to attain them on his or her own initiative. This is part of our wider health promotion strategy.

In our employee health exams, besides testing for the items stipulated in the Industrial Safety and Health Act, we have expanded the applicable age and added items for tackling lifestyle diseases and gynecological testing.

## Relations with Workers Unions

Employees of Kuraray belong to the Kuraray Workers Union and the Federation of Kuraray Workers Unions, which is composed of all workers unions for Kuraray Group employees. Through venues such as labor-

management councils and councils on occupational safety and health, we engage in earnest consultation with representatives of these unions on various issues and work for their resolution through mutual cooperation.

# The Challenge to Create Ohara Museum of Art: A Mission Passed Down

On a corner of the Kurashiki Bikan Historical Quarters in Kurashiki City, Okayama Prefecture, a building in the style of a Greek temple is remarkably conspicuous among the rows of white-washed walls that are relics of the Edo-era Shogunate.

Ohara Museum of Art, established by Kuraray founder, Magosaburo Ohara, was the first privately owned museum of Western art in Japan. Magosaburo Ohara's successor, Soichiro Ohara, guided the direction of the museum to focus on promoting and supporting the challenge of new creation activities.

Through various assistance measures for Ohara Museum of Art, Kuraray currently supports the fine arts in taking on new challenges.



The façade of Ohara Museum of Art: Inspired by the Museum of Fine Arts in Ghent where Torajiro studied, Ohara Museum of Art features distinctive Ionic columns

## ◆ For the Sake of Japan's Art World

Magosaburo respected the passion and talent of Torajiro Kojima\*, a Western-style painter who was supported by Ohara scholarships. Torajiro asked Magosaburo to collect works of art and said, "I ask you not for my own sake, but for the sake of the art world in Japan." That was in 1919. Magosaburo began to seriously consider the meaning of collecting and exhibiting Western works of art to Japanese society and agreed to accommodate Torajiro's wishes the following year. Torajiro visited the studios of Monet and Matisse, and purchased 27 pieces including "Portrait of Mademoiselle Matisse" and "Water Lilies." When Magosaburo exhibited the pieces at an elementary school in Kurashiki City, people flocked from all over Japan to see the works and he became convinced of the significance



Claude Monet "Water Lilies"

of the collection. Following this, Torajiro actively continued collecting not only Western pictorial art, but also antique art from places such as China, Egypt and Persia until his untimely death in March 1929 at the young age of 47. Magosaburo mourned the passing of Torajiro at such a young age, and decided to found

an art museum in his honor. Thus, in 1930 Ohara Museum of Art was opened. The museum was born of the friendship between Magosaburo and Torajiro, and Magosaburo hoped that the museum would be significant to wider society and have significance to people living today.

## ◆ An Art Museum that Lives and Grows

Based on the philosophy that an art museum is a thing that lives and grows, Soichiro expanded the collection and extended the exhibition space. Firstly, he worked to expand the collection of modern Western pictorial art, which had been started by

Magosaburo and Torajiro. Soichiro collected works by artists from the 1920s, the so called School of Paris. He also turned his attention to new artistic movements and collected works by contemporary artists in both Europe and America. In addition, he began to actively collect corresponding pieces of modern Japanese art. The pieces were carefully chosen based on his unique view of pieces which tried to create new value rather than being based on a systematic approach to art history.



Even today, Ohara Museum of Art holds four gallery concerts each year

In 1950, to commemorate the 20th anniversary of the founding of the art museum, Soichiro held a piano recital by Lazare Lévy, a professor from the Conservatoire de Paris and began a new initiative to unite the fine arts and music. While it is not unusual to hold a music concert at an art museum these days, that concert is believed to have been quite possibly the first such experiment in Japan. Soichiro also actively organized art courses and lectures and believed that Ohara Museum of Art should not be limited to art and design, but instead be a comprehensive base for all culture. Soichiro felt an art museum should not be simply a somber place for exhibits, but instead a place where people talked and accepted other fine arts. This was his ideal for an art museum, a place that lives and grows.

## ◆ Growth as a Company

At the same time as striving for the growth of the art museum, Soichiro was also tackling new initiatives as the manager of a company. He was seeking to establish an industrial manufacturing system for the all-Japanese synthetic fiber vinylon. This grew out of a solid sense of mission on the part of Soichiro, who believed it would fire the spirits of the Japanese after their loss of confidence with their defeat in the war. At the same time, his aim was to produce purely domestic fiber using materials from Japan and relying on unique Japanese technology rather than technology introduced from overseas. The foundation of

Soichiro's management philosophy was the idea that "any profit which a company might gain should be confined to those profits that come from technological innovation and from consideration of the social and economic benefits it brings to the entire nation." He believed that without technical innovation and contribution to society and the national economy, a company would not be able to continue.

This philosophy has been handed down and Kuraray continues to grow as a company and meet current challenges in businesses which emphasize unique technologies including *EVAL* and its isoprene chemical business.

## ◆ Supporting People Who Take on Challenges

The philosophies of both Magosaburo and Soichiro regarding contributions to society have been handed down to Ohara Museum of Art and Kuraray.

At Ohara Museum of Art, once or twice a year on days when the museum is closed, "All the School at the Art Museum" activities are carried out. On these days, all the students from local elementary schools come to the museum as if the entire school has moved into the art museum. Initiatives for interactive appreciation, written expression and reproduction and initiatives to promote awareness of the art museum's functions are implemented.

The museum is proceeding with the Artist in Residence Kurashiki, Ohara (ARKO) program, which provides the former studio of Torajiro Kojima, "Muison-so," to young artists to use to create works of art, and the Artist Meets Kurashiki (AM Kurashiki) program, in which creators who are working on a form of artistic expression such as video work/image work and performance are invited to create works whose subject matter is Kurashiki. Through these programs, the museum supports artists who take on the challenge of creating new works of art.



Artist in Residence Kurashiki, Ohara for 2012, Akiko Ueda (At work in the studio "Muison-so" provided by the ARKO program)

Since 1992 Kuraray has conducted the Chemistry Classes for Boys and Girls program with the goal of enabling students to experience the fun of chemistry. We also allow children to experience what a manufacturing site is really like through a program of plant tours. We aim to develop personnel who will lead future technological innovation, and Kuraray plants provide the opportunity for local children to directly experience chemistry. In addition, the Ohara Memorial Scholarship supports the studies of outstanding students, which is another way in which Kuraray supports the development of capable personnel to lead future technological innovation.

Through the Kuraray Workshop (established in 1997), Kuraray also offers workplaces for the mentally challenged, who are often faced with limited employment opportunities. Another program, Sending School Bags across the Sea (established in 2004), sends school bags and stationery once used by Japanese school children to the children of Afghanistan, whose educational opportunities have been limited by the war. These unique programs are planned and carried out with the cooperation of local people and organizations.

In these ways, the principles of both Magosaburo and Soichiro have deeply colored our perspective at Kuraray and Ohara Museum of Art, which are rooted in a shared approach to social responsibility expressed by the idea, "Contributing to the World and Individual Well-being through Actions that Others are Unable to Produce."

Ohara Museum of Art and Kuraray share a mission to support people who take on challenges. Kuraray wants to continue to take on challenges in its business and at the same time, also wishes to contribute to society by supporting the art museum in taking on new challenges.



Above: All the School at the Art Museum  
Below: AM Kurashiki Vol. 10, OHARA-DECO by Osamu Watanabe (artist and exhibited work)

## Torajiro Kojima

1881-1929. A western-style painter who was born in Okayama Prefecture. His Impressionist style involved the harmonious use of bright colors. His works include "Begonia Garden," "Autumn in Sakazu" and "Woman with a Hand Mirror." A graduate of the Western painting program at Tokyo Fine Arts School, he won first prize in an art exhibition organized by the Tokyo prefectural



authorities for "The Garden of Mercy." In his studies at the Royal Academy of Fine Arts in Ghent, Belgium, he graduated first in his class. He was the first Japanese who became a member of the Salon de la Société Nationale des Beaux-Arts. Beginning with El Greco's "Annunciation," he toured Europe purchasing works by Monet, Matisse, Aman-Jean, Rodin, Gauguin, Puvis de Chavannes, Segantini, Millet and Frederic. These form the core of the current collection at Ohara Museum of Art. He also purchased antique art from China, Egypt and Persia. He received from the French government the decoration of Officier de l'Instruction Publique for his efforts in introducing French pictorial art to the Japanese public.



Torajiro Kojima's masterpiece, "Belgian Girl in Kimono"

# Kuraray Group Products

The Kuraray Group believes in "Contributing to the World and Individual Well-being" through unique technology, and wants to contribute to society by providing that value. To meet the needs of a constantly changing society, our aim is to be a company that is trusted.

## 1 Aqua Business

PVA gel beads, designed as media for microorganisms immobilization, have a fine porous structure and accordingly can hold a large number of bacteria inside. The media are used for industrial or domestic wastewater treatment and for reducing the volume of kitchen scraps, thus contributing to reducing environmental load. Meanwhile, hollow fiber membrane products capable of separating particulates from liquids are utilized in various ways, including in such processes as the brewing process for sake, in wastewater treatment, in ultrapure water production for semiconductor manufacturing processes and in purified, sterile water production for medical equipment manufacturing. Furthermore, *Microfade*, a ballast water management system which uses unique technology to filter organisms in the water, is used when freight vessels release into the sea the ballast water they carry to stabilize the vessel. In this way, *Microfade* contributes to the preservation of the marine ecosystem.

**Main uses:**  
Wastewater treatment, production of purified water, water treatment at filtration plants, ballast water treatment



## 2 Vinylon Fiber

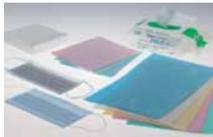
Synthetic fiber that is made from poval resin. Vinylon fiber, which has many unique characteristics such as high strength, low elongation, hydrophilicity and resistance to alkalis, is developed as an industrial material for use as reinforcing agent in cement instead of asbestos, and as a separator for dry cells. The newly developed technology, *KURALON K-II*, is a new fiber which is both water-soluble and strong.

**Main uses:**  
Slate reinforcing agent, separator for alkaline batteries, rope, other industrial materials

## 3 KURAFLEX

Developed using non-woven fabric manufacturing technologies and the Kuraray Group's specialized materials, *KURAFLEX* is a non-woven fabric bestowed with a variety of functions in a broad range of areas, from the home to the office and industry. *KURAFLEX* possesses the following unique characteristics: it is water-absorbent, breathes well, is very flexible, has a pleasant texture and can be draped.

**Main uses:**  
Masks, wet wipes, various windshield wipers, various filters, face masks, etc.



## 4 Dental Materials

Kuraray has a material that closely resembles natural teeth and can be used in dental restoration work. Led by the *CLEARFIL* series, a range of high-quality products with a leading brand name, Kuraray is developing a range of dental materials and expanding the launch of these products from Japan to the rest of the world.

**Main uses:**  
Materials for the treatment of tooth decay

## 5 FLEXSTAR

*FLEXSTAR* is a fiber structure created through the combined use of Kuraray's unique functional materials and steam-jet technologies. Hot, high-pressured steam is used to instantaneously contract or melt fibers to produce an extremely elastic structure or create a tough network of fibers with unique characteristics such as breathability and thermal insulation properties.

**Main uses:**  
Elastic bandages, paper screens with good thermal insulation properties, cushioning materials for tatami flooring (see photos)



NEW!



## KURARITY Acrylic Thermoplastic Elastomer

Using its proprietary technologies, Kuraray was the first in the world to successfully industrialize the production of *KURARITY*, a unique material possessing transparency and flexibility. Based on the properties of *KURARITY*, the prospects for market development in the fields of optics and molding materials are very promising.

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## Kuraray Coal

*Kuraray Coal* is activated carbon made from ingredients such as coconut shells and coal. It can be used in a variety of ways from the purification of water and air, absorption of evaporated gasoline, to electrode material for capacitors. The size of the pores in the activated carbon can be adjusted using proprietary technology so that *Kuraray Coal* can be customized to meet the ever more sophisticated needs of the customer.

**Main uses:**  
Treatment of unclean water and wastewater, air purification, deodorizer, solvent recovery, filtering filters, desulfurization and denitrification, absorption of gasoline vapor

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## VECTRAN

In addition to boasting approximately seven times the tensile strength of steel for the same weight, *VECTRAN* is resistant to abrasion, flex fatigue and chemicals. It is used for application in areas such as the aerospace industry, compound materials, electronic components, rope and sporting goods.

**Main uses:**  
Electronic components, aerospace industry, rope for marine uses, nets, sporting goods, etc.



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## EVAL

*EVAL* is a resin which has high gas barrier property among plastics. As it shuts out oxygen and prevents deterioration, it is widely used for food packaging. *EVAL* is also used to make gasoline tanks for automobiles as it prevents volatilization of the gasoline and in large refrigeration units for vacuum-insulation panels. In these ways, *EVAL* contributes to energy savings and its applications are expanding.

**Main uses:**  
Food packaging, automobile gasoline tanks, stain-resistant wallpaper, vacuum-insulation panels for refrigerators



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## Poval Film

Poval film is a material which has high polarization and transmission of light, and is used primarily for its excellent suitability as the polarizing base film for liquid crystal displays. In addition, it has industrial applications.

**Main uses:**  
Liquid crystal televisions, mobile phone display screens, etc.

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## Isoprene Chemicals



Kuraray is developing isoprene derivatives through its proprietary synthesis technologies, from our extremely stable and easy to handle cleaner, *SOLFIT*, to our ingredients for fragrances and cosmetics, as well as medical and agricultural intermediates.

**Main uses:**  
Basic chemicals for industrial applications, raw materials for polyurethane resins, cleaners, ingredients for fragrances and cosmetics, medical and agricultural intermediates

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## Methacrylic Resin

Utilizing characteristics such as transparency, weatherability, abrasion resistance and its bright luster, methacrylic resin is used in a variety of fields such as automobiles, household electrical appliances and general merchandise. In recent years, it has been in demand in the optical goods field for use as the light guides used in liquid crystal display units.

**Main uses:**  
Light guides for liquid crystal display units, lamp covers for automobiles, signage, building materials, etc.



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## MOWITAL PVB Resin and TROSIFOL PVB Film



*MOWITAL* or PVB resin was developed from poval and has excellent adhesiveness and transparency. These properties make *MOWITAL* suitable for use as a binder for ink and fine ceramics. *TROSIFOL*, a PVB film which is made from PVB resin, is mainly used as an interlayer for laminated glass for architectural uses, and has additional automotive uses. Its application has also expanded to include encapsulation of solar photovoltaic panels.

**Main uses:** Interlayer for laminated glass, encapsulation materials for solar photovoltaic panels

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## Poval

Poval is a functional resin that Kuraray was the first in the world to industrialize. Through the utilization of its characteristics including strong adhesiveness, resistance to oils and chemicals and surface active ability, Poval is used in a wide variety of industries.

**Main uses:**  
Paper and fiber processing agent, adhesive, stabilizer for PVC polymerization



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## Polyester Fiber

Developed using Kuraray's specialized materials, which are based on the application of unique polymers, and with Kuraray's unique process know-how, Kuraray polyester fibers find uses in a broad range of fields from fashion to sportswear, undergarments, uniforms and industrial materials. In addition, through the development of environmentally friendly materials, and through enhanced recycling of the products we sell, we are developing our business so that it contributes even more to the environment.

**Main uses:**  
Clothing, bedding, industrial materials

**Main uses:**  
Clothing, bedding, industrial materials

**Main uses:**  
Clothing, bedding, industrial materials

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## SEPTON

*SEPTON* is a styrene elastomer with excellent moldability and recyclability. As it can meet the high-performance needs of various types of goods, *SEPTON* is used in automobiles, household electrical appliances and general merchandise, and its use is being expanded to a broad range of materials.

**Main uses:**  
Automotive parts, electric appliance parts, writing implements, toys, sporting goods

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## GENESTAR

*GENESTAR* is a proprietary new polyamide resin developed by Kuraray which has excellent heat-resistance, chemical-resistance and abrasion-resistance.

It has flourished in the market as a resin which is suitable for use in lead-free solder for electronic components. It is utilized in the widely used energy-saving LED reflectors.

**Main uses:**  
LED reflectors, automotive parts, mobile telephones, digital cameras

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## VECSTAR

*VECSTAR* is a liquid crystalline polymer film developed by Kuraray using its proprietary film forming technology. *VECSTAR* has a high-frequency property suited to high-speed transmission circuits and is recognized for its superior insulating properties in electronic circuit boards. Currently, it is being developed with a focus on high-speed transmission flexible circuit boards and multilayered circuit boards.

**Main uses:** Circuit boards

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## MAGIC TAPE

From clothing and shoes to medical products and industrial materials, *MAGIC TAPE* is used as a fastener and a binder in various fields, and is useful in resource saving and waste reduction.

**Main uses:**  
Clothing, sporting goods, industrial materials, packing materials, medical supplies

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## CLARINO

Kuraray was the first in the world to commercialize the manufacture of man-made leather as a substitute for natural leather. *CLARINO* is not only lightweight and strong, but it also has the positive effect of reducing environmental load.

**Main uses:**  
Various shoes, bags such as school bags, balls, gloves, garments, interior products

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