

# UNITIKA CSR Report 2009

**UNITIKA Group**  
Corporate Social Responsibility  
Report 2009



**UNITIKA**  
We Realize It!

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As a good corporate citizen,  
we contribute to a healthier environment  
and a more comfortable way of life.

Kenji Yasue  
President

A handwritten signature in black ink that reads 'K. Yasue'.



At the Unitika Group, we are committed to a wide range of initiatives targeting enhanced enterprise value and long-term corporate growth. The basis of these initiatives is formed by development and enhancement of our business as well as by establishing a robust cooperate structure that provides us with the ability to respond to ongoing changes in the business environment. However, we are also acutely aware of how our business initiatives are intertwined with our corporate social responsibility, and we understand that it is absolutely essential for a better enterprise value to establish a relationship of trust with our stakeholders. For the Unitika Group, this approach has always demonstrated our long-term commitment to our corporate social responsibility (CSR).

In promoting our CSR initiatives, we have also remained dedicated to defining and developing the systems required to implement and manage our essential functions, which include addressing environmental issues, ensuring legal compliance, managing product safety, and implementing internal audits and controls. In July 2008, we established our CSR Office to ensure that we pursue these important functions with greater effectiveness and oversight. Headed by the Director in charge and managed by the full-time senior management staff, this office is empowered to address a comprehensive range of CSR requirements. For example, it has pursued risk management by adopting a system that ensures rapid and effective risk assessment and response.

Among the most important of Unitika's CSR initiatives are those that address environmental challenges. This emphasis is appropriate, as the twenty-first century has been called "the era of the environment," with issues such as the potential for global warming and environmental pollution now assuming a significantly greater share of our corporate responsibility. In keeping with our Group ideal of "contributing to society by linking lifestyles and technologies," we have long made a priority of interlinking our Group's corporate

initiatives while placing priority on the environment.

Our focus on the environment testifies to our basic approach of contributing to the emergence of a society committed to recycling resources. It includes a variety of efforts to reduce our environmental load, including the development of recycling technologies for processing refuse and wastewater, the development of biomass-based polylactide polymer Terramac® contributing to less emission of CO<sub>2</sub>, and the implementation of environmental assessments targeting the air, water, and soil, all of which reflect Unitika's commitment to the environment. We are also promoting Group-wide registration for the ISO 14001 environmental management standards, of which certification encompasses six Unitika plants and other major facilities; moreover, our main plants have converted from oil to natural gas for their energy requirements. Clearly, in terms of both our business and operations, we have been focusing on the most pressing environmental issues.

Under our new three-year medium-term management plan, "Reform 2011", which began in April this year, we have been cultivating eco-friendly business models as reflected by our recycling business, our environmental materials business, and our reputation as a manufacturer of Terramac®. This testifies to our management vision as a good corporate citizen contributing to a healthier environment and a more comfortable way of life. Committed to reinforcing and promoting these efforts and building upon our past initiatives as an environmentally responsible company, we are now in an excellent position to promote additional specific goals as required by CSR.

I trust this report clarifies our commitment to the CSR initiatives the Unitika Group is pursuing as a responsible corporate citizen, and I welcome your support as we pursue these initiatives.



## Notes on FY 2009 Report

### ● History of Report

This report was originally issued as the Unitika Environmental Report, a document which detailed Unitika's various environmental and social related activities. By 2006, the Report has expanded CSR coverage, reflecting the growing importance of this area and greater attention it is receiving in Japan. The CSR information includes topics such as corporate governance, internal control and other principles and systems in use by the Group. The Report is now issued annually as CSR Report.

- 2002-2005 Unitika Environmental Report
- 2006- Unitika CSR Report

### ● Period Covered by Report

This report covers principally the period from April 1, 2008 through March 31, 2009, however it does address certain items, and events arisen after April 1, 2009.

### ● Reference Guidelines

This report refers to the Environmental Report Guidelines (2007 edition) issued by the Ministry of the Environment.

### ● What This Report Covers

This report in principle covers activities by Unitika, Ltd.'s domestic production sites and the Unitika Group companies including those overseas and Environmental Report covers the following range of items.

#### Unitika Production Sites in Japan

Uji Plant  
Okazaki Plant  
Sakoshi Plant  
Tarui Plant  
Toyohashi Plant  
Tokawa Mill  
Miyagawa Mill  
Kaizuka Office  
Central R&D Laboratories

#### Internal Group Companies

Ad'all Co., Ltd.  
Nippon Ester Co., Ltd.  
U-ai Electronics Corp.  
Unitika NP Cloth Co., Ltd.  
Unitika Environmental Technical Center Co., Ltd.  
Unitika Glass Fiber Co., Ltd.  
Unitika Plant Engineering Co., Ltd.  
Unitika Textiles Ltd.  
Unitika Fibers Ltd.  
Unitika Logistics Co., Ltd.

#### External Group Companies

I-TEX Co., Ltd.  
Osaka Dyeing Co., Ltd.  
Diabond Chemical Co., Ltd.  
Terabo Co., Ltd.  
Union Co., Ltd.  
Unitika Sparklite., Ltd.  
Unitika Spinning Co., Ltd.  
Unitika Berkshire Co., Ltd.

### ● Date of Issue

This report can be accessed on Unitika's company website from October 2009. In light of the potential environmental impact, no printed version is issued.

### ● Next Report

October 2010

### ■ Terminology used in this report

- CSR: Corporate Social Responsibility.
- Stakeholders: Customers, shareholders, suppliers, society, local communities, employees, and other individuals and organizations that have vested interests in a company.
- Compliance: The observance of laws and corporate ethics.

## Company Overview

**Name:** Unitika Ltd.

**Founded:** June 19, 1889

**Capital:** 23.8 billion yen (as at March 31, 2009)

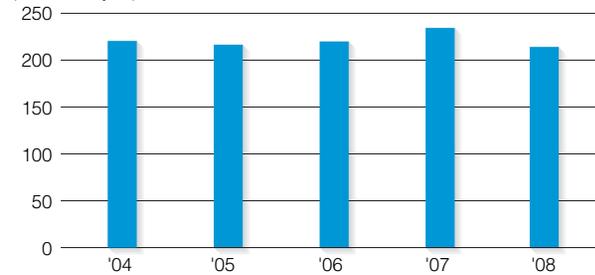
**Number of employees (consolidated):** 5,437 (as at March 31, 2009)

**Sales (consolidated):** 209.6 billion yen (FY 2008)

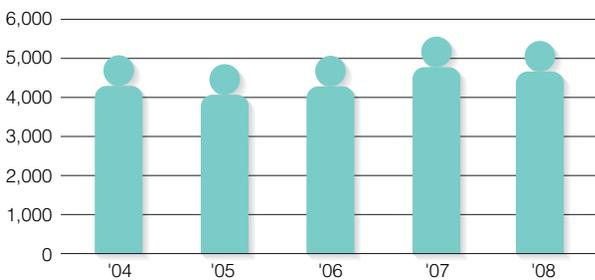
**Main business areas (consolidated):** Polymers (films, resins, spunbond), environmental/advanced materials (engineering, pharmaceutical products, functional materials), fibers (synthetic and natural fiber yarns, staple fibers, woven and knitted fabrics), health & amenity products, other business areas

### ■ Sales(Consolidated)

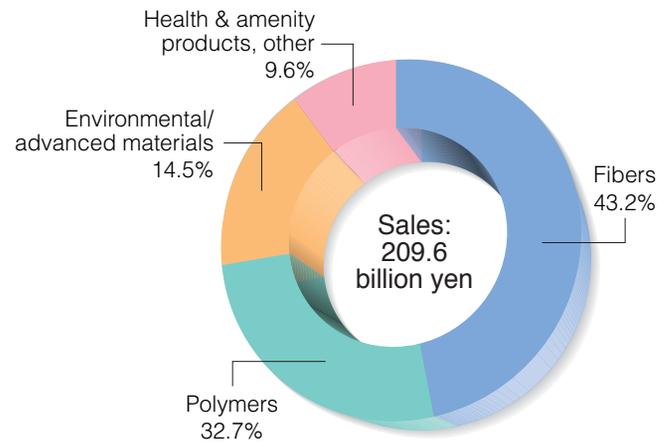
(Billions of yen)



### ■ Employees (Consolidated)



### ■ Sales Share of Each Business Unit (FY 2008, Consolidated)





### Management Philosophy

#### "Contributing to society by connecting persons' living to technologies"

The Unitika group's management philosophy is to contribute to society by connecting people's lives to technology. Unitika aims to be a company with a clear social presence that contributes positively to the environment and to people's lives.

#### The Unitika Group Slogan

**UNITIKA**  
We Realize It!

There is an unimaginable number of people in the world. There is an unimaginable number of dreams and hopes. The Unitika Group aims to unite all of these with one desire. One desire to improve the lifestyle of persons, living together in harmony within the global environment.

Unitika has the creative power to bring about this way of thinking. We also possess the technology and energy to turn these possibilities into realities. We have taken the time to unite all the companies involved in our various businesses, ensuring we are operating at full capacity through unification of our capabilities across numerous fields.

Unitika consistently strives to work together toward this goal.  
The possibility of improving persons' lifestyle - We Realize It! -  
We are the Unitika Group.

### Corporate Governance

Unitika aims to be a company with a clear social presence that contributes positively to the environment and to people's lives. Under this management vision the Unitika group will implement ongoing corporate governance initiatives.

#### ● Basic Policy for Corporate Governance

In our three-year medium-term management plan that came into effect in April 2006, we reaffirmed our business and corporate governance strategies. Employing rapid decision-making, we work on a stakeholder-orientated business perspective by strengthening compliance and risk management, and ensuring timely and accurate information disclosure. Consistent adherence to this management approach will increase Unitika's corporate value in today's increasingly globalized economy, to enable sustained growth. Since the announcement of our plan, we have continued to pursue a management system that promotes corporate governance. Moreover, "Reform 2011", our medium-term management plan implemented in April 2009, outlines our desire to promote corporate management that emphasizes corporate governance and reiterates our commitment to increasing earnings and improving corporate value.

#### ● Implementation

In 2000, Unitika adopted a management system that sets forth two separate function areas: management decision-making/supervisory functions ('governance') and business execution functions ('management'). The Board of Directors specializes in the first set of functions, aided by the Management Strategy Council, an organization that provides directors the opportunity for more in-depth discussions on policies and issues pertaining to all aspects of the Group's management. The second set of functions are implemented by the Executive Director System and a President's advisory body known as the Business Execution Council, which speed decision-making and demarcate areas of responsibility. In 2006, in addition to setting forth a set of basic policies on internal control, we established a CSR Compliance Group. Additionally, we reviewed our administrative structures, making changes such as enabling directors to also serve as executive officers. In 2008 we set up a CSR Office, as well as a system for compliance and risk management in order to promote internal control.

## Internal Control

In April 2007, we created the Internal Control Promotion Office, and began implementing internal control for financial reporting. In July 2008, we established CSR Office by integrating all the sections related to internal controls.

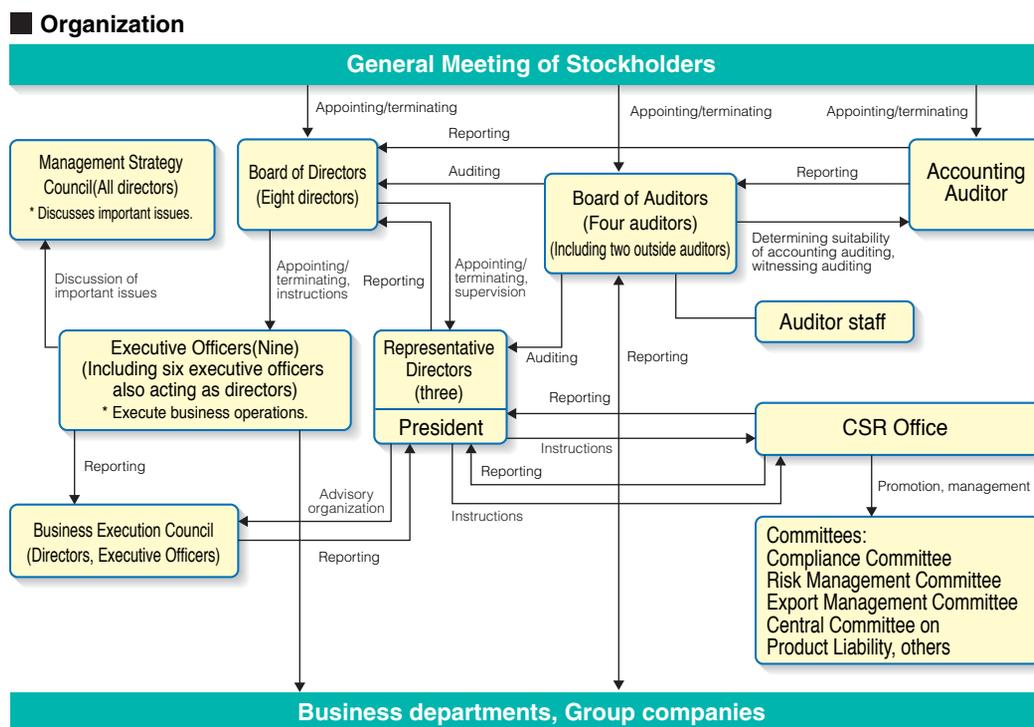
### Basic Policy

Set forth in the nine items of Unitika's Basic Policy for Internal Control.

- Unitika's Basic Policy for Internal Control (Item Headings)
1. Organization to ensure that the execution of job duties by directors and employees complies with all applicable legislation and the Articles of Incorporation
  2. Items pertaining to saving/managing information on directors' execution of job duties
  3. Regulations on loss hazard management; other organizational elements
  4. Organization to ensure that execution of directors' job duties is performed efficiently
  5. Organization to ensure suitability of operations done by corporate groups
  6. Organization to secure the reliability of financial reports.
  7. When auditors ask for appointment of employees to act as assistants  
Items pertaining to organization for those employees, and to their independence from directors
  8. Organization used for directors and employees to report to auditors; organization for reporting to other auditors
  9. Other organizational elements to ensure that auditing by auditors is performed effectively

### Organization

The diagram below shows the organization used for corporate governance, and to ensure fair corporate activities. The basic elements correspond to Unitika's Basic Policy for Internal Control (outlined above). This organization is used to strictly enforce internal control-compliance, information saving/management, risk hedging, increasing the execution efficiency of director job duties, and ensuring the suitability of operations.





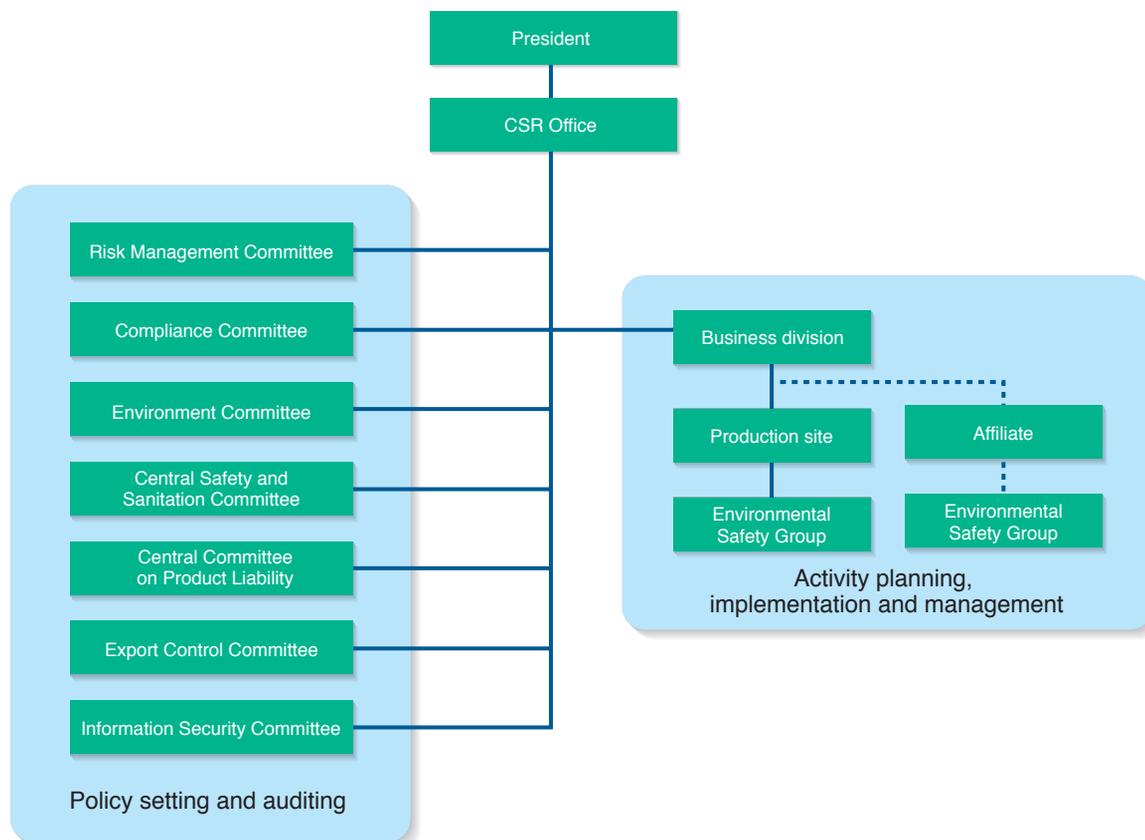
## CSR Promotion System

In order to promote environmental awareness and safety measures as well as compliance and risk management and other facets of CSR, in 2008 we established the CSR Office and a CSR Director to oversee CSR at the entity-level.

We have established a management system consisting of various committees and business divisions that support the CSR Office in promoting CSR initiatives.

Priority initiatives undertaken as part of the CSR promotion system include those aimed at ensuring (1) environment, health, and safety (EHS) management, (2) the promotion of compliance, (3) information security management, and (4) product safety.

### ● Organization of the CSR Promotion System



## Environment, Health, and Safety (EHS) Management

Unitika's Environment Committee meets regularly every year. It discusses and votes on major environmental issues such as basic plans for environmentally-aware management, and verification of their progress. Also, the bureau of the Environment Committee implements environmental audits of our production sites and reports on the findings of these at Environment Committee meetings.

The Central Safety and Sanitation Committee and the Environment Committee act as departments dedicated to safety and environmental measures, and have a higher level of authority in the Unitika hierarchy than the Environmental Safety Groups of Unitika production sites or affiliates. They form an organization that provides the leadership to implement effective environmental measures.



## Compliance Promotion

In 1998, Unitika instituted the *Unitika Action Charter*.  
 In April 2008 we reviewed the *Unitika Action Standards* that specifies the action standards in a concrete manner. These standards are distributed to all Unitika Group employees, so that they can take an action in consideration of our compliance policy, and contribute to people's living and environment as well.



### ● Unitika Charter of Corporate Behavior

The Unitika Charter of corporate behavior is our basic policy on how best to fulfill our mission as a public-spirited corporation. It applies to all directors and employees of Unitika and Unitika Group companies.

The Unitika Charter of Corporate Behavior is a set of guidelines on how to act for the public good by complying with laws and international standards and guidelines.

1. UNITIKA, by the development and provision of socially beneficial goods and services in a safe and responsible manner, shall strive to earn the confidence of their consumers and customers.
2. UNITIKA shall promote fair, transparent, free competition and sound trade. They shall also ensure that their relationships and contacts with government agencies and political bodies are of a sound and proper nature.
3. UNITIKA shall engage in communication not only with shareholders but also with members of society at large, including active and fair disclosure of corporate information.
4. UNITIKA shall strive to respect diversity, individuality and differences of their employees, to promote safe and comfortable workplaces, and to ensure the mental and physical well-being of their employees.
5. UNITIKA shall respect the culture and customs of other nations and strive to manage their overseas activities in such a way as to promote and contribute to the development of local communities.
6. UNITIKA shall reject all contacts with organizations involved in activities in violation of the law or accepted standards of responsible social behavior.
7. As a "good corporate citizen," UNITIKA shall respect fundamental human rights and actively engage in philanthropic activities, and other activities of social benefit.

### ● Whistleblower Contact Points

In 2006, Unitika put into effect a set of "whistleblower protection" (internal reporting) regulations, designed to allow employees to immediately report any malfeasance or illegal activities they might encounter. As part of this effort, we created two contact points for such reporting, one within the company and one outside the company. These are part of the strict measures we use to ensure thorough compliance within the company, driven mainly by the Compliance Committee. Further, as part of our training in observing compliance using tools like our company intranet, we regularly dispatch information on these contact points to our employees. Over the course of fiscal 2007 such efforts built better compliance awareness throughout the Unitika Group, and made it possible for more employees to be able to use the system.

### Unitika's Whistleblower Contact Points



## Information Security Management

This section outlines our work on information management and security, which are becoming increasingly important issues as the growth of the Internet provides ever easier access to information.

### ● Information Security

To maintain the confidentiality of information assets and prevent

unauthorized use, Unitika set up the Basic Policy on Information Security in 2005. This document contains our Information Security Declaration and sets forth our steadfast approach to implementing it, while setting up a management and operation organization driven by our Information Security Committee. The Basic Policy is designed to ensure protection and effective use of the information we handle in the course of our business activities.

#### Unitika Information Security Declaration (Preamble Omitted)

1. We will take steps to ensure the security of information as set forth by our Information Security Policy.
2. We will create an information security management organization, and implement it in a systematic manner.
3. We will educate and train our directors and all employees on our Information Security Policy, working to prevent information security accidents.
4. We will work on improving our information security measures on an ongoing basis.
5. We will comply with all personal information protection laws and all relevant statutes and standards.

\* 'Information Security Policy' refers to the documentation set forth and managed by the information Security Declaration, Basic Policy on Information Security, Standards for Information Security Measures and Information Security Implementation Procedures.



## CSR Report

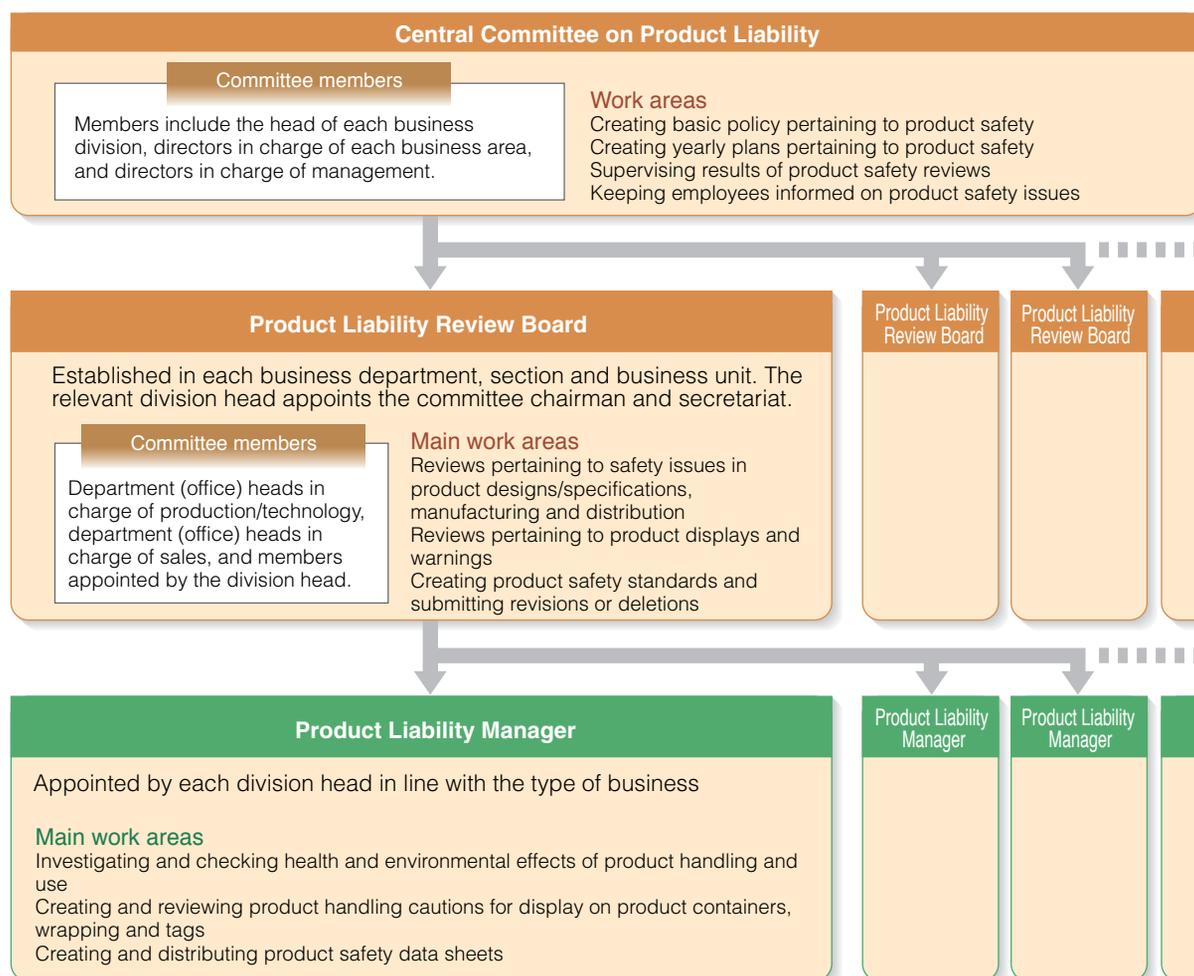
### Relationships with Clients

Through our product liability and quality assurance efforts, Unitika strives constantly to improve product safety and quality of our products maintaining customer satisfaction as our first priority.

### Ensuring Product Safety

Unitika has established product safety management regulations designed to ensure that we always offer safe products to our customers. Unitika's product safety management regulations contain detailed provisions on areas such as basic policy, responsibility areas, implementation systems, and bylaws on the implementation and application of manual procedures. Unitika

and Unitika Group companies work to ensure that product manufacturing and sales are carried out safely, in compliance with these regulations. The chart below details promotional system, headed by the Central Committee on Product Liability, for ensuring product safety.



### ● Product Safety Record for Fiscal 2008

No product liability-related incidences occurred.

\*Information on the claims which may bring about an accident is

shared by the Central Committee on Product Liability and such information is used to prevent from repeated claims.

### Quality Assurance Activities

In order to satisfy customer's demands on our products, the Unitika Group is pursuing quality management system certification. We are constantly improving our quality assurance

activities based on ISO9001 standards for quality management systems.



## Relationships with Shareholders & Investors

Based on our "stakeholder-oriented" business perspective, Unitika endeavors to disclose accurate and timely information to the stockholders and investors at every opportunity. In January 2003, we established a new Investor Relations (IR) Department, which works, as IR/Public Relation Group, in tandem with the Public Relations Department to ensure that such activities function smoothly, and to create a meaningful dialog between the company and its stockholders and investors.

### IR Activities

#### Ordinary General Stockholder Meetings

Through explanations of our latest operating conditions and dialogs with shareholders, Unitika uses ordinary general stockholder meetings as opportunities to deepen understanding of our business conditions and policies.

#### Announcements of Financial Statements & Explanatory Sessions

Unitika conducts a variety of financial data disclosure activities, including twice-yearly second quarter and full financial year accounting statements for the press, both of which are followed a week or so later by explanatory session geared toward institutional investors and analysts.



March 2008 Financial Explanatory Session  
(May, Keidanren Kaikan)

#### Institutional Investor Visits

Unitika representatives make visits to institutional investors and analysts in order to provide more specific information as needed.

#### Publications

- Financial Flashes (4 times annually, in May, August, November, and February)
- Stockholder Reports (2 times annually, at second quarter and full year closing)
- Corporate Guides

#### Website Development

The "To Our Shareholders & Investors..." section of the Unitika corporate website offers an array of public information of interest to stakeholders.

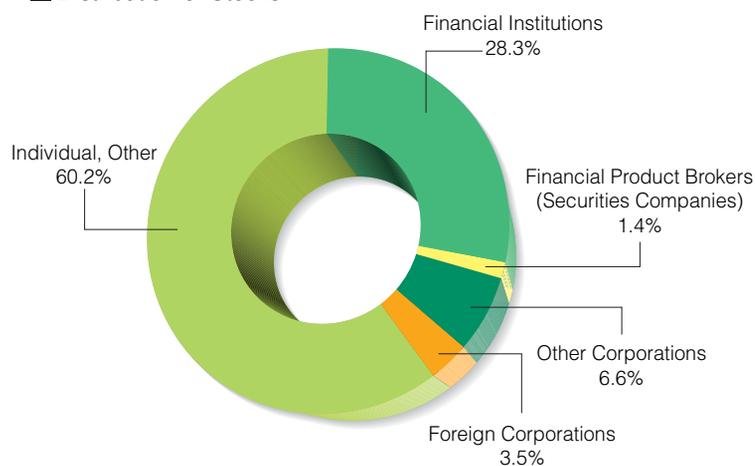
### Share Status (as of 31 March, 2009)

■ Total Number of Shares Issued: 475,969,000

■ Number of Shareholders: 68,557

■ Number of Unit Shareholders: 57,965

#### ■ Distribution of Stocks





## Giving Back to the Community

Through beautification efforts, disaster prevention activities conducted with local communities and volunteers, and various informational services, Unitika works on with the people of the communities to protect the environment and build a more ecologically friendly society.

## Efforts Toward Environmental Improvement

Building on the success of the Kyoto Protocol, Kyoto Prefecture has created an environmental administrative organization that includes a system called Eco Kyoto 21. The system targets businesses that protect and develop Kyoto and the environment. It certifies and registers corporations that play a leading role in environmental preservation through awareness activities, and in promoting recycling in the local community. Unitika's Uji Plant has participated in the system from its inception, and in December 2004, was certified and registered under the system's Ecostyle category for production sites and organizations carrying out highly original environmental activities.



### ● Participation in Local Beautification Activities

The Uji Plant is actively involved in volunteer activities to beautify the surrounding areas. It also participates in the local "Clean Uji" beautification and cleanup campaign, and conducts cleanup



The Clean Uji event



activities of the Uji Plant area three times a year. Other Unitika production sites are also giving back to the community by beautifying their surrounding environments.

One Saturday in March 2008, about 150 people from the Okazaki Plant and surrounding community gathered for a volunteer activity to clean up the area around the facility.



Cleanup around the Okazaki Plant

### ● Helping Keep the Planet Green

Responding to Japan's increasing focus on public-spirited volunteer projects, Unitika Labor Union established a volunteer foundation in 1992 and began a range of activities inside and outside the Company. In Japan, we have held support activities in facilities for the handicapped and conducted training meetings to expand the frontiers of volunteer activities. We have also worked to step up volunteer activities overseas, where we have sent volunteers to work camps for international exchanges, and have raised money for disaster relief.

In 2003, Unitika Labor Union celebrated its 30th year anniversary by starting a program called Midori no Plan ('Green Plan') designed to give back to the community and raise environmental consciousness. Midori no Plan volunteers created a wooded area they named Unitika no Mori ('Unitika Wood'). Three species of local trees (sawtooth oak, quercus serrata, Japanese cypress) were planted in a two-hectare area of mountain forest in Hidakagawa-cho (Wakayama Prefecture). Employees visit the area for cutting back the undergrowth and pruning several times per year. In September 2008, thirty-three employees performed this task to enable better tree growth. This project has been recognized by Wakayama Prefecture as "an effort contributing to CO2 absorption

through forestation," and is projected to absorb about 800 tons of carbon dioxide from the atmosphere over the next 100 years.



## Disaster Prevention & Readiness Efforts

Unitika has created an organization well-equipped to prevent production accidents and accidents damaging surrounding areas. In addition to these basic measures, we are also active in training activities to prepare for accidents and natural disasters. To make internal standards for managing safety at production facilities, Unitika has established a set of "pre-evaluation policies" on safety hygiene and environmental effects at new facilities. All new and remodeled facilities are subject to a strict inspection to be carried out two times, once during the designing stages and later again upon completion. Plants that use boilers and other high-pressure vessels are charged with a law to conduct yearly inspections. However voluntary self-management systems and specific conditions are fulfilled or acknowledged by presiding labor standards inspection office, and such inspections may be extended to once every two years instead of every year. Two Unitika facilities (Uji and Okazaki) have earned this

acknowledgement.

On March 5th, 2009, as part of the 2009 Spring Fire Prevention Campaign, over 100 people participated in joint training exercises conducted by the Uji Plant's Film Manufacturing Division in conjunction with the Uji City Fire Department. The exercises were completed successfully and included initial response training on the use of water-based fire extinguishers, as well as an earthquake simulator and burning house structure.

Due to its location in an area that has been officially designated as having a high earthquake risk, the Okazaki Plant holds an annual disaster prevention day every November. In 2008, this day was held on November 19th and the entire plant participated in training exercises involving communication, evacuation, and facility inspection reporting as well as initial response firefighting trainings and leak prevention trainings tailored to the needs of each section.



Joint firefighting training (Uji Plant)



Leak prevention training (Okazaki Plant)



Earthquake simulator (Uji Plant)



Firefighting training with water-based fire extinguishers (Uji Plant)



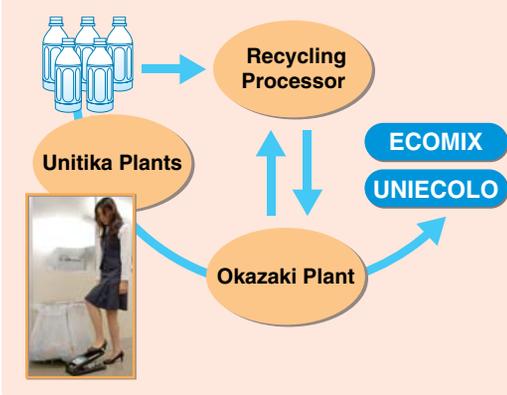
Initial response firefighting training (Okazaki Plant)

## TOPICS

### PET Bottle Recycling

Unitika manufactures and sells a variety of recycled products bearing the "ecomark," such as UniEcolo, recycled polyester fibers, and Ecomix, recycled polyester non-woven fabrics. As part of our efforts toward environmental protection, we have been developing such important products for which the demand is increasing. As a raw material for these, we organized a campaign for recovering used plastic PET bottles, which are washed and collected by employees from our various plants and their families. These are collected by our Okazaki plant and sent to a recycler to be chopped into usable plastic flakes. This recovering campaign began in Uji, Okazaki and Osaka, but now has spread to the Unitika Fibers Headquarters and our Toyohashi, Sakoshi, Tokiwa, and Tarui where employee participation awareness is on the rise.

### Unitika PET Bottle Recycling System



## Public Relations Activities

Terramac is a biomass material made from a polymer derived from plants such as corn. To promote and educate the public about the benefits of Terramac, and as part of our corporate CSR activities, in continuation from 2007, Unitika participated in the "2008 Surprise! 100 Eco Choices" fair at the Kyoto and Shinjuku branches of Takashimaya department store. The exhibit booth displayed a variety of items made from

Terramac, including bowls, chopsticks, and bath towels. We also held a mini "Ecolympics" for children in which contestants raced to pick up the most beans made of Terramac with chopsticks within a set time limit. Additionally, in keeping with the 2007 fair, we distributed Japanese fans with ribs and handles made of Terramac.



Terramac Product Display



At the Ecolympics

## TOPICS

### The Unitika Group Exhibits at "Eco-Products 2008"

Last year marked the tenth anniversary of the Eco-Products exhibition, which is held to promote environmentally-friendly products and the development of an environmentally-friendly society. Held from December 11th to 13th at the Tokyo Big Sight exhibition center, Eco-Products 2008 set new records for the number of exhibitors and attendees, drawing approximately 174,000 visitors over the three days. Attending the exhibition for the third year running, Unitika's slogan for this year was "Unitika Eco Laboratories-thinking, producing, and changing." Unitika introduced a variety of its environmental initiatives under the concept of thinking about the environment and people's lives, producing required items using required methods, and changing people's lives and the future. We also profiled the group's diverse initiatives including Terramac, a biomass material derived from plants; Castlon (Nylon 11) fiber and other ecological fibers; the introduction of in-house gas cogeneration systems; water and waste disposal; and plastic recycling.





## Report on Promotional Event Held at the Unitika Fitness Club in Uji, Kyoto

### Unitika's "mascot girl" is a hit at local fitness club

Unitika's "mascot girl", Shioli Kutsuna, participated in a promotional event in Uji, Kyoto Prefecture. Shioli enjoyed a photo shoot with amateur photographers from all over the country and worked out with members of the local fitness club.



#### Beauty photo contest with "mascot girl" Shioli Kutsuna

With the fall colors at their peak, on November 23rd, 2008, the eighth annual beauty photo contest (sponsored by a well-known Japanese sports newspaper) was held with Unitika's "mascot girl" Shioli Kutsuna at the Unitika Fitness



Club, which neighbors the Uji Plant, the Unitika Group's main production base.



The occasion marked a first visit to Kyoto for Shioli, who was born and raised in Australia. The photo competition was attended by around seventy amateur photographers from all over Japan who couldn't wait to start snapping shots of Shioli, who appears in TV drama shows and commercials. Now in its eighth year, the competition has starred other Unitika mascot girls in the past, but in celebration of the opening of the Unitika Uji Fitness Club, this year's event was the first time it has been held at a Unitika facility.



The photo shoot started in the brand new first floor lobby. Once Shioli had relaxed a bit, she changed into her fitness gear, and the group moved into the gym itself. Whether she was balancing happily on an exercise ball or working out on the weight machines, Shioli's smile thoroughly captivated her audience. Shioli said that the photo shoot was a lot of fun—"It's Shioli!" the young model shot back in response to the photographers' requests to "turn this way Saori".



**Making waves with a kids swimming class after working out in the gym**

After lunch, Shioli took part in an exchange event with fitness club members. It seemed that the members of the club from the local area had really been looking forward to meeting Unitika's "mascot girl". The fitness club was actually closed on the day of the event, but a lot of local residents came along.



Shioli joined club members in the Easyline training session in which training machines are arranged in a circle and teams of fourteen compete. Shioli was adamant that she would complete a full set, and finished the whole non-stop thirty-minute workout. After moving on to the pool, Shioli stood alongside the coaches and helped them coach as she cheered on the swimmers. To finish off the day Shioli led a game with 200 children from a junior swimming class. She then signed copies of her calendar for the children who looked very pleased to receive them. Shioli gave out high fives as she said goodbye to the children and her long day drew to a close. "I had a really great time. It was so cool to meet so many new people," she grinned as she left Uji, tired but happy.



# CSR Report



## Concern for Our Employees

Unitika's personnel system is designed to encourage employee self-actualization. We provide equal employment and work opportunities, and make every effort to create accommodating workplace environments.

### Personnel System

#### ● Personnel Appraisal System

Unitika's personnel appraisal system emphasizes employees' effort, and is designed to increase the organization's vitality. It is a results-driven system that awards greater benefits to employees who achieve greater success or tackle more difficult challenges. A biannual goal management system and annual competency evaluation system are used along with our human resources development program. They impartially evaluate how well each employee is meeting their goals, and help them set new goals to develop their abilities. Supervisors meet with each employee to discuss their evaluation results, ensuring that everyone receives proper feedback, for better transparency and communication.

#### ● Self-Reporting System (Career Plan)

Once a year, at the time of the annual personnel appraisal employees submit a 'Career Plan Sheet' to self-report how much aptitude they feel they have for their position. The Career Plan Sheet covers five main areas: (1) the employee's thoughts on their current position, (2) their own medium- to long-term career plan, (3) what they want to achieve next in their career (such as whether they want to be reassigned), (4) their strengths and how they have been working on achieving their career plan, and (5) comments on their current job position (such as their concerns) and improvement suggestions in the workplace. These comments are used to clearly identify skill development goals and expectations regarding roles. Furthermore, we also confirm whether employees of a certain age would like to use a reemployment system.

Unitika is aware of the importance of job rotation in fostering outstanding human resources. Our practice of periodic job rotation (especially for young employees) helps employees improve their abilities by giving them the opportunity to work in several departments, and helps us spot candidates to fast-track.

### Equal Opportunity

#### ● Women Employees

Unitika's women employees are valued for their abilities and perspectives. We employ a large number of female employees and have no gender-biased employment or promotion policies. Over the past five years, 22.4% of Unitika employees have been women, including many in management positions.

#### ● Achieving a Work/Life Balance

In the interest of achieving an ideal balance between work and home life, and also to address Japan's aging society issues, Unitika fosters a corporate environment that allows employees to take leave for both child-raising and elder care, and in fact, Unitika offers leave durations for these, and also for care for sick children, that are longer than those stipulated by law. Also, based on Japan's "Next-Generation Child-Raising Support Measures Promotion Law," the company is also involved in promoting male

participation in child-care, with child-care leave available to both male and female employees.

	(Employees)	
	Taking Leave for Childcare	Employees Taking Leave for Elder Care
2004	27	1
2005	17	0
2006	27	3
2007	26	0
2008	18	4

#### ● Reemployment System

Unitika has a senior employee system that enables employees to continue in the same job after reaching the age of 60. We welcome employees who want to continue working, and in FY 2008, our rehire rate was 61.1%.

## Human Resource Development

Unitika believes that raising the ability of each employee in the organization is crucial for achieving high business goals. Human resource development is therefore an important focus for us. We approach it through two areas-our personnel system that sets forth employee work conditions and appraisal methods, and systems to encourage ability growth, such as ability development and training systems. Unitika Training Center is the dedicated

training center we have created to implement our approach. It is used for several different types of training taken by a large number of employees. To help employee self-improvement efforts, Unitika offers a job qualification assistance system, correspondence courses, and full-time study courses at universities in Japan. Many of our highly-motivated employees are eager to take advantage of these benefits.

### Training System (Program) and Number of Students (FY 2008)

- 1 Training for individual levels (647 students)**
  1. Training for promoted employees (233 students)
  2. Young employee education (414 students)  
New employee training, basic knowledge course, manufacturing department leader development course
- 2 Specialized education (123 students)**
  1. Competency improvement training  
Legal training
  2. On-the-job development education  
Supervisor training, business leader training
  3. Quality control training



## Employee Mental Health

Unitika actively pursues measures to ensure the mental well-being of employees based on the Guidelines on the Maintenance and Enhancement of Employee Mental Health issued by the Ministry of Health, Labour and Welfare. Every Unitika employee undergoes mental health training when they are promoted to a management position. We encourage managers to be aware of their managerial

role and to take care of their own mental health. Managers can use the Hello Kenko Sodan 24 Service provided by an external EAP (employee assistance program) provider through an agreement with Unitika's health insurance union. To ensure mental health consultation is readily available, we have created internal and external health consultation offices.

## Human Rights

The entire Unitika Group is an active advocate of human rights. Unitika's Standards for Behavior are distributed among employees with the goal of elucidating the company's policies on human rights, and the company also has in place an annual human rights education seminar attended by all managers and employees. To comply with Japan's revised equal opportunity law, we are also working on preventing sexual harassment, and have set up sexual harassment consultation offices at each production site to raise awareness and recognition of the problem among all employees. Unitika and its subsidiaries and affiliates in Japan and overseas are not engaged in forced labor or child labor.

### Organogram of Human Rights Education Committee





## Safety & Health Activities

Unitika places a top priority on the safety and health of its employees, an issue that is becoming all the more important especially with respect to corporate social responsibility (CSR).

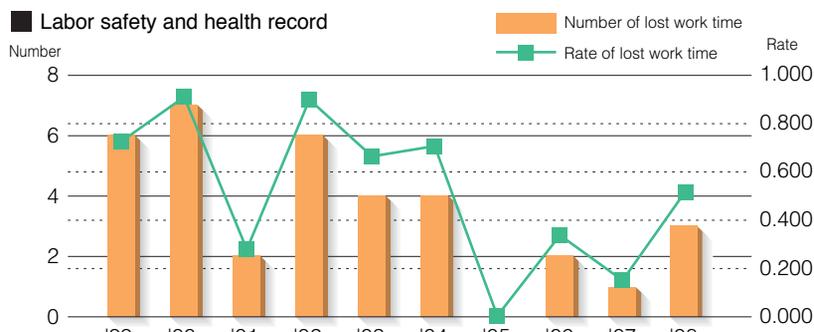
The entire Unitika Group strives to prevent workplace accidents and ensure comfortable working environments and healthcare management.

### Unitika's Basic Policy for Safety and Health

1. Ensuring safety and health is the foundation for every types of business activities.
2. Ensuring safety and health is the most important obligation of executives and managers at each level of the corporate management.
3. All employees shall take part in activities for ensuring safety and health.
4. We shall comply with all relevant labor safety and sanitation laws and workplace safety and health standards to ensure safety and health.
5. We shall implement an ongoing safety and health management system to ensure safety and health.

To raise employee safety awareness, Unitika creates medium-term (three-year) safety and health plans that we have been implementing since 1969. Since 1974 we have conducted an annual health and safety conference, attended by company directors, management staff, and health and safety officers from all Unitika production sites. While our new medium-term plan (the 14th program running from 2008-10) sets an ultimate target of zero workplace accidents, as our operations involve many safety risks and change frequently, based on the principles regarding our workplace safety and health

management system, we have been working to "spiral up" our safety and health activities, and continue refining our risk assessment capabilities, with the aim of reducing potential dangers to zero. Moreover, based on the Guidelines for Employee Mental Health in the Workplace issued by the Ministry of Health, Labour and Welfare, we are actively involved in the promotion of mental healthcare and are enhancing preventative measures against lifestyle-related diseases through special health checks and special health guidance targeting metabolic syndrome.



Unitika's rate of lost work time in FY 2008 was 0.515, an unfortunate increase over the previous fiscal year. We will continue making improvements to our safety and sanitation activities, aiming to keep the number of workplace and industrial accidents at zero.

## Asbestos Removal

Unitika and Group companies are not involved in the manufacture or processing of asbestos, nor have been in the past. However, in 1975, some machinery used asbestos insulation. In response to today's greater concern over asbestos, we have established the Asbestos Action Committee to study actions needed for asbestos, create asbestos policies and carry out other Groupwide functions.

As a safety measure, the Committee has surveyed equipment and buildings using asbestos in production sites and Group companies. Areas that could expose employees to asbestos-laden materials or generate airborne asbestos have already been removed, sealed off or enclosed as needed. To check employee health, we have offered health exams to any

current or former employees who handled asbestos in the past and want to check for asbestos-related health problems. As of March 2009, the current number of health problems among current and former employees is shown below. No health problems have been reported from residents of areas surrounding production sites or Group companies.

- Number of certified industrial accident victims: 5 (4)\*
- Number of victims certified under the Law Concerning the Relief of Health Damage Due to Asbestos: 3 (3)\*

\*Number in parentheses is number of deaths.

## Basic Environmental Policy

Unitika named 1993 an Environmental first year, when we enacted the Unitika Global Environment Charter, consisting of our pledge, basic philosophy and action guidelines. Since then, we have complied with this Charter to ensure that our corporate management methods are environmentally aware, working on a range of environmental activities.

### ● Unitika Global Environment Charter

The growth and development of mankind is rapidly altering our planet's air, water and soil, threatening both the global biosphere and our own future, since both must depend on a finite ecosystem. As a corporation with more than a century of business activities contributing to the public good, we are highly aware of the demanding conditions now facing the global environment. The Charter is the declaration of our intention to focus more attention on protecting and helping the environment, making appropriate environmental action the core of our business activities.

### ● Basic Philosophy

Better living through technology, driven by corporate activities that help humans and nature coexist.

### ● Action Guidelines

<b>1</b>	<b>Continual awareness of the global environment</b>	The Unitika Group always considers the effects of our corporate activities on the global environment, following a rigorous set of management procedures during product manufacture to prevent harm to it.
<b>2</b>	<b>Contributing through technology development</b>	We aggressively research and develop technologies to protect and help the global environment.
<b>3</b>	<b>Using resources and energy efficiently</b>	We promote efficient use of resources and energy, and recycle limited resources.
<b>4</b>	<b>Carrying out PR and educational activities</b>	We organize a large number of PR activities that provide information on protecting and helping the global environment, and promote a wide range of educational events.
<b>5</b>	<b>Drawing on the complete range of Unitika Group competencies</b>	Following the mandates of the Charter, we draw on our complete range of competencies to protect and help the global environment.

## Medium-Term Environmental Plan

The Unitika Group has continued with systematic improvements having established a Medium-Term Environmental Plan that sets the reduction of industrial waste and the efficient use of resources and energy as priority targets.

From fiscal 2006 we examined and analyzed the results of the third Medium-Term Environmental Plan that was completed in fiscal 2005, and applied it to the fourth Medium-Term Environmental Plan that was scheduled for completion in fiscal 2008.

As a result, in fiscal 2008, while changing energy fuel sources, and other policies was effective in reducing energy use, energy

source unit did not improve due to the drop in output caused by the economic downturn that began in the second half of 2008.

Efforts to reduce industrial waste and sell usable resources successfully reduced industrial waste by approximately 18% at domestic plants and internal group companies. Recycling rates were lower than target figures due to the impact of reduced output caused by the economic downturn.

From the next (i.e. the fifth) Medium-Term Environmental Plan, a new scope that includes domestic group companies will be applied and medium-term targets will be based on fiscal 2007 results.

### ● Fourth Medium-Term Environmental Plan (FY 2006-FY 2008)

	Priority Issues	Targets	Results (FY 2008)	Fifth Medium-Term Environmental Plan Targets
1	<b>Reduction of industrial waste</b>	16% reduction compared to FY 2004 level *	Achieved	4% reduction compared to FY 2007 level *
2	<b>Improvement of loss recycling rate in production process</b>	7% increase compared to FY 2004 level *	Not achieved	2% increase compared to FY 2007 level *
3	<b>Improvement of energy source unit</b>	Year-on-year reduction of 1%	Not achieved	Year-on-year reduction of 1% in final year
4	<b>Reduction of energy consumption</b>	10% reduction compared to FY 1990 in FY 2010	Achieved (provisional)	10% reduction compared to FY 1990 in FY 2010

Note\*: Scope of fourth Medium-Term Environmental Plan: Domestic plants and internal group companies

Scope of fifth Medium-Term Environmental Plan: Domestic plants, internal group companies, and external group companies



## History of Environmental Preservation Activities

Unitika's work on environmental management has continued uninterrupted for over 30 years, and will continue into the future.

Pollution first became a major issue in Japan in 1973. That year, Unitika created the Environmental Preservation Regulations, making a clear distinction between environmental measures and outward-directed production activities, to enable compliance with regulatory and standards values.

In 1991, we created a new companywide organization called the Environmental Preservation Committee, followed in 1993 by the Unitika Global Environment Charter. That year we began yearly environmental auditing, establishing the basic direction for our environmentally-aware management style that has continued to this day. In 1998, we created the Unitika Charter of Corporate Behavior, a document that sets forth the basic action policy needed to fulfill our Unitika Group mission as a public-spirited corporation. Its first article sets forth our responsibility for environmental and safety awareness.

The Unitika Action Standards created and implemented in April 2001 expanded on the Unitika Action Charter by setting forth specific action standards for Unitika organizations and employees to comply with in the performance of their routine business activities. The Standard of Corporate Behavior represent a clear step toward corporate activities grounded in a mindset of corporate social responsibility (CSR). They cover areas such as the environment, safety, compliance, and coexistence with the public good and stakeholders.

### Unitika's Environmental Preservation Activity History

September 1973	Created and implemented Environmental Preservation Regulations.
October 1991	Revised Environmental Preservation Regulations, established Environmental Preservation Committee.
April 1993	Created and implemented Global Environmental Charter.
May 1993	Environmental Preservation Regulations were reborn as Environmental Regulations. Established Environmental Committee, organization which meets annually.
May 1994	Started environmental audits (once per year). (Voluntary audits by each production site and internal audits by headquarters staff.)
July 1996	Created targets for first Medium-Term Environmental Plan (FY 1997 to 1999).
September 1996	Started publishing Kankyo, our in-house newsletter on environmental issues.
October 1997	Started activities aimed at becoming ISO 14001-certified at our major production sites.
January 1998	Created and implemented Unitika Action Charter.
January 1999	Unitika Chemical was awarded ISO 14001 certification (first in Group).
October 2000	Created targets for second Medium-Term Environmental Plan (FY 2000 to 2002).
April 2001	Created Unitika Action Standards.
October 2002	Published Unitika Environmental Report.
October 2002	Created targets for third Medium-Term Environmental Plan (FY 2003 to 2005).
October 2005	Created targets for fourth Medium-Term Environmental Plan (FY 2006 to 2008).
October 2008	Created targets for fifth Medium-Term Environmental Plan (FY 2009 to 2011).

Unitika is working on becoming certified under ISO 14001-the international standard for environmentally-aware corporate activities. We have started activities to help our affiliates obtain ISO 14001, and have been conducting environmental audits of each company.

### ISO 14001-Certified Unitika Organizations

April 1999	Ad'all Co., Ltd.
November 1999	Unitika Sakoshi Plant
October 2000	U-ai Electronics Corp.
January 2001	Unitika Textiles Ltd., Tokiwa Mill
March 2001	Unitika Uji Plant
March 2001	Unitika Uji Plastic Plant
March 2001	Unitika Central Research Laboratories
March 2001	Unitika Fibers Ltd., Uji Plant
March 2001	Unitika Glass Fiber Co., Ltd., Kyoto Plant
March 2001	Unitika Environmental Technical Center Co., Ltd., Kinki Office
October 2001	Unitika Okazaki Plant
October 2001	Unitika Fibers Ltd., Okazaki Plant
October 2001	Unitika Plant Engineering Co., Ltd., Chubu Office, 2nd Business Division
October 2001	Nippon Ester Co., Ltd., Okazaki Plant
October 2001	Unitika Environmental Technical Center Co., Ltd., Chubu Office
December 2001	Unitika Tarui Plant
December 2001	Unitika Plant Engineering Co., Ltd., Tarui Group
December 2003	Unitika Glass Fiber Co., Ltd., Tarui Plant
February 2004	Diabond Chemical Co., Ltd.
September 2004	Terabo Co., Ltd.
June 2008	Union Co., Ltd.



### Evaluation of Financing for Environmental Rating

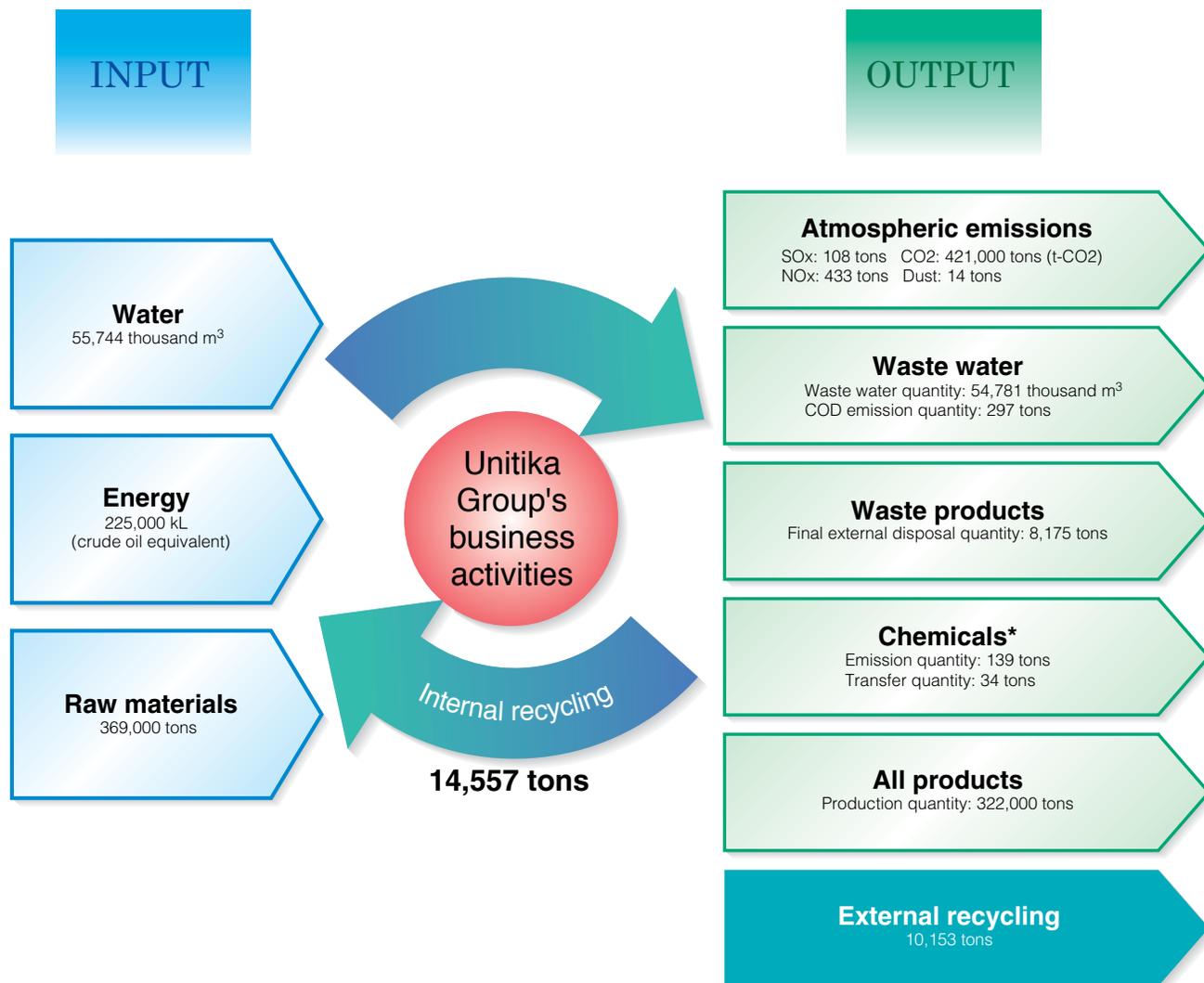
Unitika has earned the overall evaluation "a company offering particularly advanced efforts toward environmental issues," and in fiscal 2007, we received financing from the Development Bank of Japan for financing for environmental rating. This financing was granted in recognition of our development of the polylactide-based material Terramac, which has received widespread attention as a carbon-neutral material, and also for our leading roles in turning the private sector toward lower carbon emissions and achieving dramatic reductions in CO<sub>2</sub> emissions from energy sources. As a result of a three-level environmental screening covering management overall, operations, and performance, Unitika received the highest rating.



## Overview of Environmental Impact

### ● Environmental Impact From Business Activities (FY 2008 Figures)

The Unitika Group is aware of the various types of environmental impact caused by our business activities, and we are working to obtain accurate data on its severity and on reducing it. The diagram below shows the Unitika Group's materials flow for FY 2008. The transfer and emission quantities of each chemical regulated by the PRTR (Pollutant Release and Transfer Register) System are shown below.



\*Substances requiring registration under PRTR System



## Environmental Report

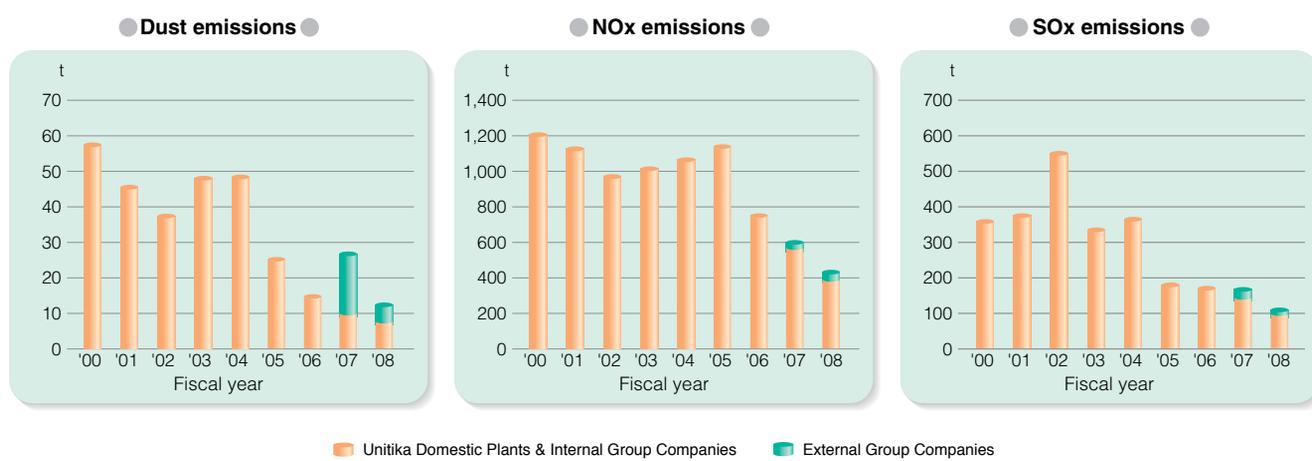
### Work on Reducing Environmental Impact

Unitika is minimizing its air and water pollution, and helping curtail global warming. Today's manufacturing industry is being called on to preserve the global environment, and we are actively working on environmental measures.

### Air Pollution

The Unitika Group is engaged in initiatives to reduce the amount of atmospheric emissions in order to prevent air pollution. Domestic plants are pursuing measures such as switching from fuel oil to liquefied natural gas (LNG) and the abolition of diesel power generation.

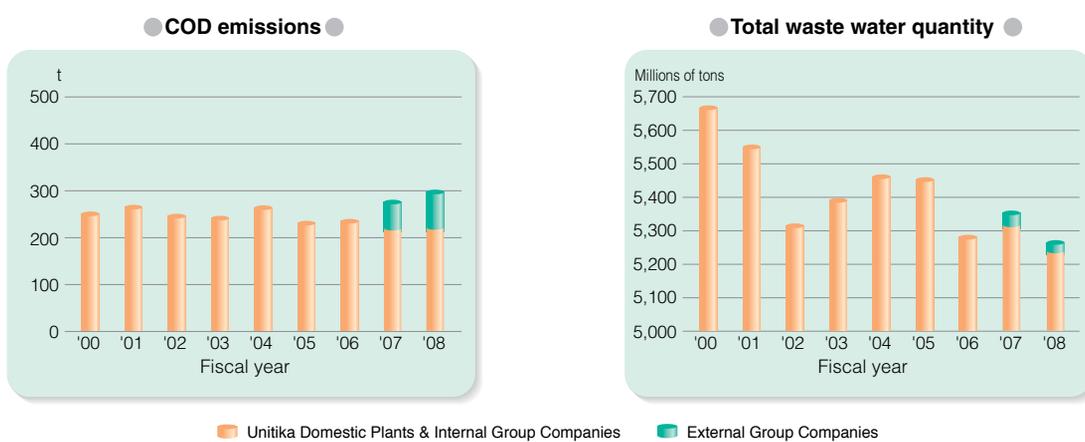
As a result, in fiscal 2008, we further reduced emissions of dust, nitrogen oxides (NOx), and sulfur oxides (SOx). Going forward, we will work to reduce emissions through appropriate operation management.



### Water Pollution

The Unitika Group had chemical oxygen demand (COD) emissions of 297 tons in fiscal 2008 representing a 9% year-on-year increase. Meanwhile, total wastewater emissions decreased year-on-year by 3% to a total of 54,781 thousand

tons. Water resources used are treated and monitored for quality before being released back into rivers, the ocean, or sewerage systems.





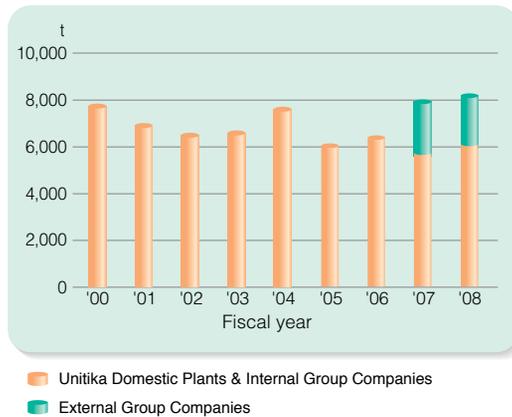
## Waste Products

Unitika is endeavoring to reduce industrial waste by promoting measures such as reducing the quantity of waste generated and selling recyclable resources.

Reduced thermal recycling at some plants and other factors saw the quantity of processed industrial waste rise slightly in fiscal

2008 to 8,176 tons, marking a year-on-year increase of 3 percent. Unitika will continue its efforts to reduce industrial waste by promoting the reduction of the quantity of waste generated and the sale of recyclable resources.

● Quantity of processed industrial waste products ●



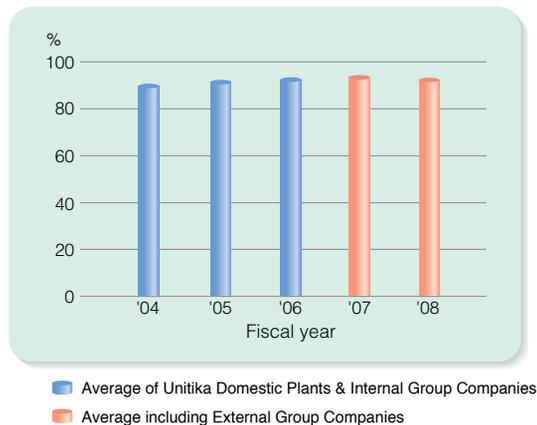
## Rate of Recycling

Unitika is making efforts to improve its rate of recycling by reusing materials, selling recyclable resources, and reducing the quantity of waste that is burnt.

In fiscal 2008, the average rate of recycling at Unitika and eight

external group companies worsened to 92.2%, marking a year-on-year decrease of 1 percent. This was mainly attributable to reduced thermal recycling and other factors.

● Rate of recycling ●





## Handling of Chemical Substances

The Unitika Group maintains a policy of quantitatively managing chemicals and substances thought to be hazardous to human health, as set forth in regulations like the Occupational Health and Safety Law and the Basic Environment Law, and at each of our plants these substances are strictly controlled. The Pollutant Release and Transfer Register (PRTR) system based on the Chemical Substances Management Act (Act on Confirmation, etc. of Release Amounts of Specific Chemical

Substances in the Environment and Promotion of Improvements to the Management Thereof) is a system in which companies report data regarding emission/transfer amounts of specified chemical substances that are thought to be hazardous to human health and/or the ecosystem, which is then made public by the government.

In fiscal 2008, the Unitika Group reported on its emissions and transfer of 23 substances that are subject to the system.

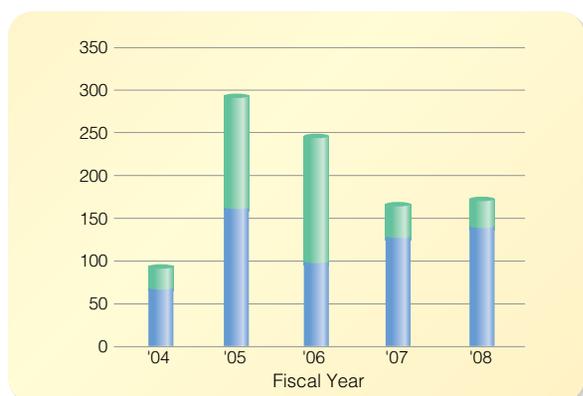
### The 23 substances requiring registration under PRTR System

- Acetaldehyde
- Antimony and its compounds
- Asbestos
- Bisphenol A
- Bisphenol A epoxy resin
- Ethylene oxide
- Ethylbenzene
- Ethylene glycol
- ε-caprolactam
- Xylene
- Cobalt and cobalt compounds
- 1,4-dioxane
- Dichloropentafluoropropane
- Dichloromethane(Methylene chloride)
- N, N-dimethylformamide
- Terephthalic acid
- Toluene
- Hexamethylene diamine
- 1,2,4-benzenetricarboxylic acid 1,2-anhydride
- Boron and its compounds
- Poly(oxyethylene) = alkyl ethyl
- Poly(oxyethylene) = nonylphenol ethyl
- Methyl methacrylate

### ● Emission and Transfer Amounts for PRTR System-Regulated Substances in Fiscal 2008 ● (annual tons)

Substance	Atmosphere	Water	Total Amount of Emission	Transfer Amount
Acetaldehyde	5	2	7	-
Asbestos	-	-	-	2
Bisphenol A	-	0	0	5
ε-caprolactam	15	0	15	-
Dichloropentafluoropropane	1	-	1	-
Dichloromethane(Methylene chloride)	86	0	86	9
Terephthalic acid	-	-	-	1
Toluene	17	-	17	15
Boron and its compounds	-	10	10	0
Poly(oxyethylene) = alkyl ethyl	-	3	3	0
Other	1	0	1	2
<b>Unitika Domestic Plants &amp; Internal Group Companies Total</b>	<b>107</b>	<b>12</b>	<b>119</b>	<b>17</b>
<b>Unitika External Group Companies Total</b>	<b>18</b>	<b>3</b>	<b>21</b>	<b>17</b>

### ● Emission/Transfer Amounts of Substances Subject to the PRTR System ●



Compared to fiscal 2007, amounts of chemical substance emissions in fiscal 2008 increased slightly, while transfer amounts maintained approximately the same levels. Transfer amounts were successfully reduced due to the full implementation of a system for collecting and reusing organic solvents that began in fiscal 2006.

We are committed to setting voluntary limits reductions in pollutant emission and transfer, including improving processes to optimize our operations while at least maintaining or even reducing our environmental impact.



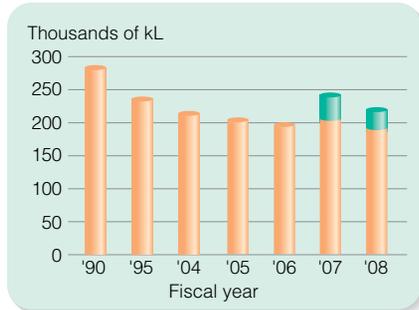
## Energy Saving & Global Warming

The Unitika Group is engaged in a variety of energy-saving initiatives aimed at reducing emissions of greenhouse gases, specifically, CO2 emissions related to energy use in order to reduce energy consumption and energy source unit.

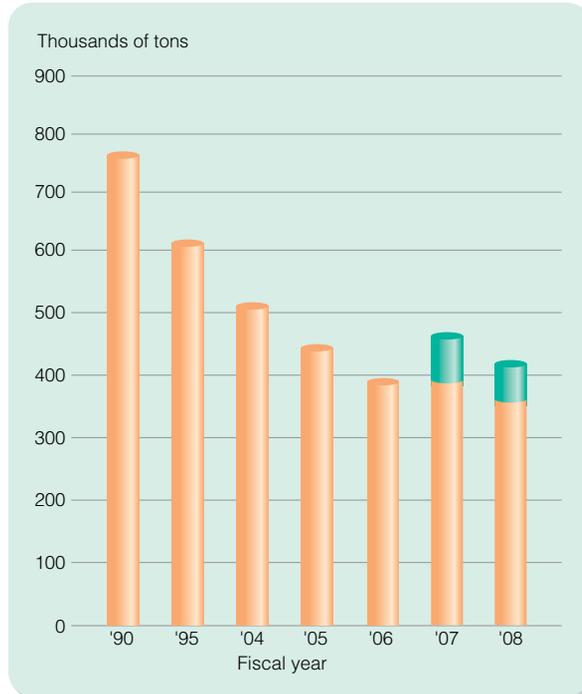
Alongside other measures, the switch from fuel oil to natural gas at the Uji, Okazaki, and Sakoshi Plants and the abolition of diesel power generation and switch to purchased power at the Tarui Plant and Toyohashi Plant partially improved (i.e. reduced) energy source unit. However, as a whole, energy source unit worsened (i.e. increased) year-on-year by 1 percentage point,

due to reduced production volume and other factors. Compared to fiscal 2007, energy consumption and CO2 emissions decreased in fiscal 2008. This was in part due to decreased production volume, but is also partially attributable to the switch from fuel oil to natural gas, the abolition of diesel power generation, and low-key efforts to save energy. We will continue to work on preventing global warming from an all-encompassing perspective, examining various indices throughout the manufacturing process.

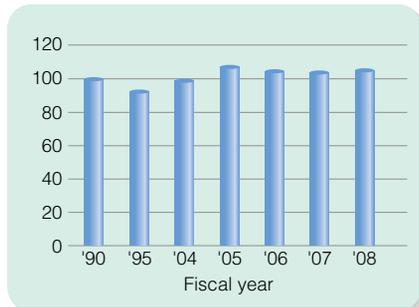
● Energy consumption quantity (crude oil equivalent)



● Changes in CO2 emissions from energy generation (based on CO2)



● Energy unit requirement (indexed to FY 1990 level=100)



■ Unitika Domestic Plants & Internal Group Companies (Excludes U-ai Electronics Corp. and Unitika NP Cloth Co., Ltd.)

■ Unitika Domestic Plants & Internal Group Companies  
■ External Group Companies

Note: Energy source unit: Energy usage (crude oil equivalent in 1000s of kL) divided by output (in 1000s of tons)

## Logistics

To reduce the environmental impact of transportation needed for inputs of raw materials and outputs of products and waste products, Unitika implements the four logistic guidelines shown below. These guidelines have helped us make across-the-board improvements in transportation efficiency, and in reducing energy consumption and emissions gases.

- 1 We will shorten transport distances by lending, borrowing or swapping general-use products or materials of equal quality with other companies.
- 2 Within Japan, we will use container transport by sea or rail whenever possible, since these methods enable mass transport and are energy-efficient.
- 3 Forklifts used for work inside sites will be changed from engine-driven models to environmentally-friendly battery-driven models with zero emissions gases and low noise.
- 4 We will reduce transportation energy consumption by using flexible containers that can wrap larger numbers of products instead of paper bag wrapping materials, and by shaping containers for more efficient truck loading.

In line with an April 2006 revision to Japan's laws pertaining to rationalized energy consumption, we have started energy-saving initiatives for logistic. In FY 2008, Unitika and Unitika Group companies were registered as the designated shippers for a total freight transport volume of 95,586 thousand ton-km, resulting in a CO2 emissions volume of 33 thousand tons (t-CO2).

## Environmental Complaints

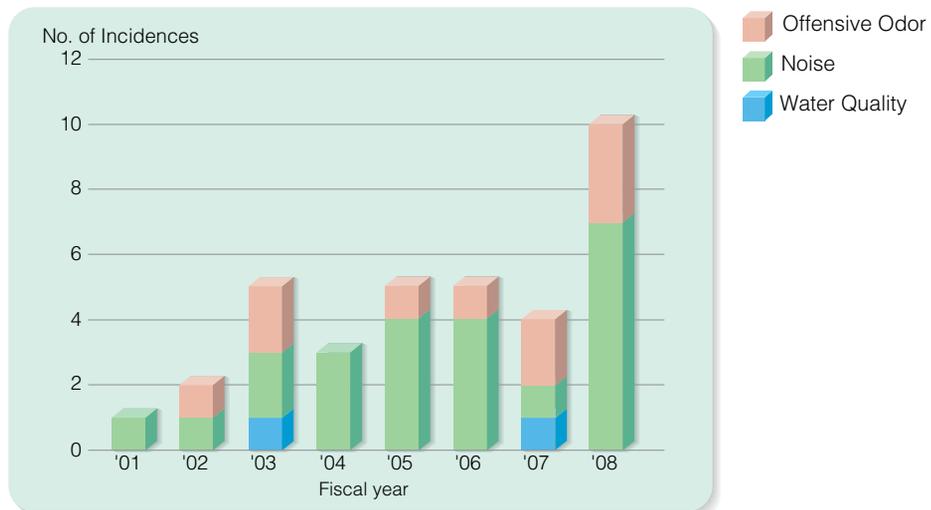
Based on Unitika's corporate vision of "being a company that contributes to people's lives and the environment, and that has a positive presence within society," we make utmost efforts to pursue our business and activities in ways that are considerate of the people living around us. Despite these efforts, in fiscal 2008 we still received a number of complaints regarding noise, industrial odors, and other incidences of environmental disturbance.

In each case, we looked to find both causes and solutions and

communicated these to those in the surrounding communities while taking steps to ensure their non-recurrence. In all such situations we will do our utmost to improve so that we may contribute positively to the living environments of the people living around us.

Further, in fiscal 2008, for Unitika and the Unitika Group, there were no incidences of accident or pollution that might have led to environmental problems, nor were there any violations of environmental laws and regulations.

● Complaints from Surrounding Neighborhoods ●



\*There were no complaints regarding air quality from fiscal 2001 to 2008.

## Environmental Accounting

The Unitika Group implements environmental accounting as part of our environment-conscious business activities. In conducting our environmental accounting, we follow the 2005 edition of the environmental accounting guidelines published by the Japanese Ministry of the Environment in May 2005. Unitika will continue to release clear and accurate environmental accounting data.

### ● Purpose of Environmental Accounting

- To make environmental preservation more efficient by quantitatively identifying the amounts of investments and expenses for environmental preservation, and to make decision-making processes in a more reasonable way.
- To disclose environmental accounting information to our stakeholders and to fulfill our responsibility to keep them informed.

### ● Method of Tallying Environmental Accounting Data

Data provided by : Unitika Domestic production sites & Internal Group Companies and Union Co., Ltd.

Applicable period : April 1, 2008 to March 31, 2009 (FY 2008)

Calculation method: Investment amounts include the environmental investment on items for which the environment is not the main objective. Expense amounts include labor costs, general expenses and depreciation.

Unitika's fiscal 2008 environmental investment was 441 million yen. Most of these funds were used on items related to lightening the environmental burden and recovering and recycling chemical substances and materials.

Environmental expenses were 2,833 million yen, mainly for maintenance and management of equipment to prevent pollution, waste processing (including recycling expenses), and product R&D to reduce environmental impact.

### ● Environmental Preservation Costs

(Millions of yen)

Category		Capital investment	Cost	Remarks
Business area costs	Pollution prevention costs	249	839	Pollution (water, air and noise pollution) prevention measures
	Environmental preservation costs	—	77	Energy saving, global warming prevention
	Resource recycling costs	189	1,304	Waste disposal, recycling
Upstream/downstream costs		—	146	Packaging material recycling
Management activity costs		3	82	Environmental management system maintenance environmental education, impact monitoring
R&D costs		—	320	Developing environmentally-friendly products
CSR costs		—	40	Forestation improvements, beautification campaigns
Environmental damage costs		—	23	Quantity-based tax on environmental impact of SOx emissions
Total		441	2,833	

### ● Economic Effects

(Millions of yen)

The table lists items with a clear basis for calculation that have high substantive benefits for environmental preservation. Note that inferred benefits have not been calculated.

Item	Amount
Reduction in energy expenses	48
Reduction of costs associated with energy-efficient power sources and industrial waste reduction	28
Income from sale of recycled resources	163



## Technology and Products for Environmental Safety

Unitika offers various products and technologies using a basic approach that aims to create sustainability through resource recycling.

### Water Treatment Facilities

- Water supply facilities
- Advanced water supply treatment facilities
- Advanced sewage treatment facilities
- Agricultural community waste water treatment facilities
- Seepage water treatment facilities in final disposal sites
- Industrial waste water treatment equipment
- Sludge reduction equipment
- Water supply membrane filtration equipment
- Sewerage facilities
- Granular desphosphorizing equipment
- Fishery community waste water treatment facilities
- Waste water treatment facilities in garbage incinerators
- Sewage treatment equipment
- Sludge composting equipment

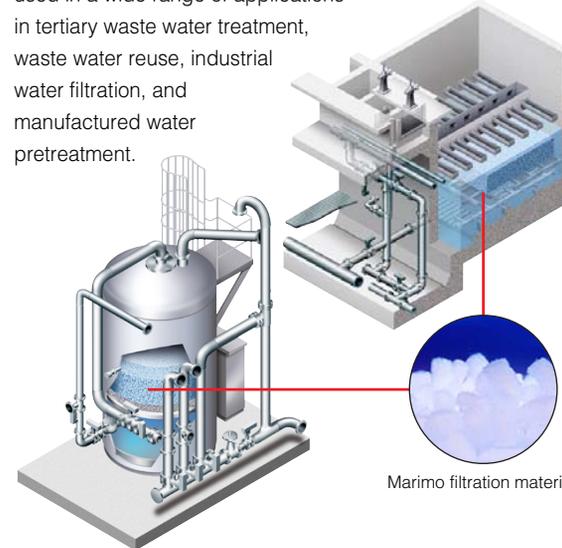
#### ● Improved Combined Sewerage Treatment System

Since large volumes of combined sewage flows into sewage treatment sites in a short time when it rains, the sites can't treat it fast enough, and untreated sewage is released into rivers or other waterways. To solve this problem, Unitika has developed an improved combined sewerage treatment system driven by our Marimo high-speed filtration system, enabling rapid and stable treatment over short amounts of time. It efficiently performs variable high-speed filtration on top/bottom counter-currents, providing high treatment capacity in rain or shine. It removes pollutants at a filtration rate of up to 2,000 m/day in rain, and at a standard rate of 1,000 m/day in clear weather. It is a high-performance system offering stable treatment capacity at a low cost.



#### ● Marimo High-Speed Filtration System

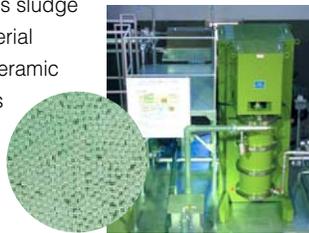
Marimo is a high-speed filtration system developed by Unitika that offers high performance and uses a special fiber as the filtration material. Marimo's high-speed function provides a filtration rate five times faster than conventional sand filtration systems. Offering a significantly higher level of treatment efficiency, it enables easy cleaning and draws on Unitika's many years of expertise as a fiber manufacturer. Marimo is used in a wide range of applications in tertiary waste water treatment, waste water reuse, industrial water filtration, and manufactured water pretreatment.



Marimo filtration material

#### ● Sludge Reduction Equipment

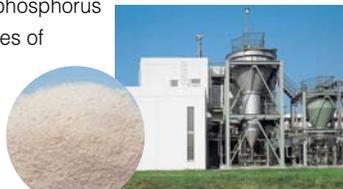
To enable the type of sustainable industrial processes that will ensure the future of mankind and our planet, Unitika has developed equipment to reduce the volume of sludge generated when treating biological materials. The equipment continuously mills the excess sludge generated in biological material treatment tanks using fine ceramic beads. When the milling has solubilized the sludge, it is fed back into the biological material treatment tank to biodegrade.



Fine ceramic beads

#### ● Phosnix Granular Desphosphorizing System

A system that recovers phosphorus in waste water as granules of magnesium ammonium phosphate (MAP), a substance that can be effectively used as a fertilizer.



MAP

#### ● Biological Contact Filtration Facility

A clean water facility that uses spherical carriers of polyester fiber as the filtration material. Biological membranes form on the surface of the filtration material, and microbes such as nitrifying bacteria and iron oxidizing bacteria propagate within the filter layer. The biological purifying properties of these microbes efficiently remove ammoniacal nitrogen, iron and manganese. The facility can fit within a small footprint and has a high pure water treatment capacity.



Kita Koriyama water purification facility

## Garbage Processing Facilities

- Stoker incinerators
- Gasifying-melting furnaces
- Garbage crushing and sorting facilities
- Exhaust gas treatment equipment
- Regenerative-heat deodorizing equipment
- Fluid-bed incinerators
- Incineration residue melting furnaces
- RDF (refuse-derived fuel) facilities
- Fly ash treatment equipment
- Container and wrapping recycling facilities

### ● Next-Generation Stoker Incinerator: Uniburn System 21

Unitika started constructing city garbage incineration facilities in 1971, and has now built 90 facilities. Uniburn System 21 is a next-generation city garbage incineration system that draws on these many years of experience, developed with the aid of German technology for stoker incinerators with boilers. Its low air ratio and high combustion temperature improve the heat recovery rate and enable significantly cleaner exhaust gas. These features reduce environmental impact and lower total garbage processing cost.



Yachimata City Clean Center

### ● Advanced-Function Incineration Residue Melting System: Unimelt System 21

Developed as the result of our research on reducing and cleaning incineration residue, the Unimelt System can melt incinerator ash, fly ash, incombustible residue left after processing bulk garbage, or incombustible residue mixed in with combustible residue. Waste plastic that previously couldn't be reused can be melted together with other garbage, making the system effective for plastic thermal energy applications. Unimelt is a revolutionary system that enables residue to be cooled into slag after melting, for effective use as a construction material. Unimelt can also melt items processed at landfill disposal sites, enabling recycling at those sites.



Eco Slag Center at Tottori Prefecture's Greater Western Area Administrative Management Union

## Air Pollution

- Deodorizing equipment
- Soil surveys/analysis
- Pollution cleanup measures
- Dust collection equipment
- Soil pollution cleanup measures
- Pharmaceutical products, resins, filtration materials

### ● Environmental Surveys, Measurement and Analysis: Unitika Environmental Technical Center Co., Ltd.

Unitika Environmental Technical Center (UETC) uses the latest equipment and technology to carry out environmental surveys, measurement and analysis, along with various investigations needed by several industries. UETC is certified by Japan's Ministry of the Environment as a qualified contractor for dioxin analysis, and has gained a reputation for solid reliability. To enable more accurate analysis, UETC can analyze trace amounts of dioxins. It is highly experienced in soil surveys (a recent area of concern in Japan), and has measures to combat soil and groundwater pollution permanently. UETC also helps protect living environments through activities such as sick building surveys; air quality, weather, noise and vibration measurements; technical support for water treatment; exhaust gas, odor and work environment measurements; and analysis of river water, waste water, drinking water, asbestos, and insulation oil trace PCBs.



Environmental hormone analysis



Extracting a sample with a simple boring machine

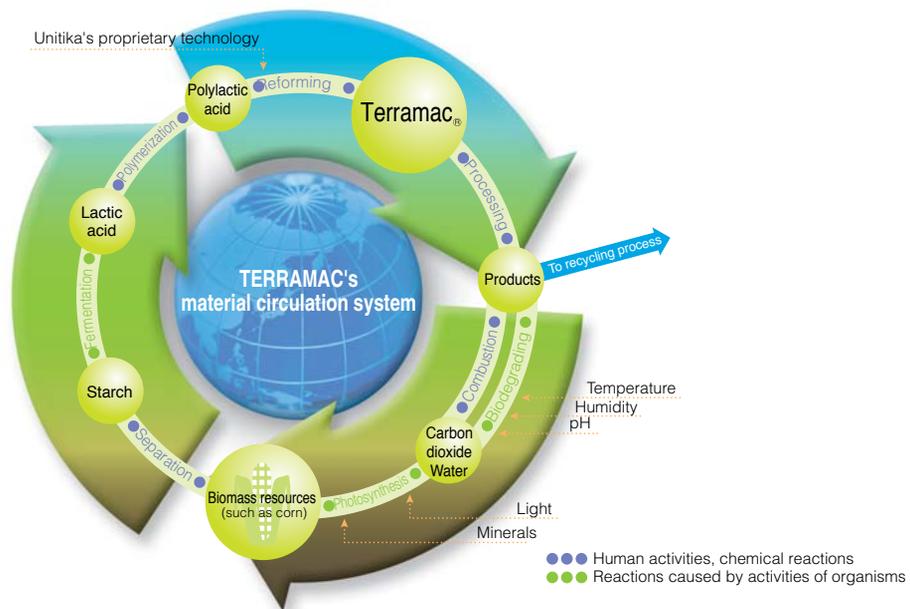


## Plant-Derived Biomass Material

### Terramac

Terramac is a biomass material made from a polymer derived from plants such as corn. Biomass materials are organic resources derived from sustainable biological sources except for fossil resources. Terramac ultimately degrades into carbon dioxide and water, which are absorbed into plants such as corn for their growth. Then, the corn can be turned Terramac again. So Terramac is part of the world's natural 'recycling system'. Conventional plastic products are made from oil, a limited and non-renewable raw material that will run out in the not-so-distant future if we continue using it. It has a wide range of applications in clothing, plateware, cups, wrapping films, cosmetic bottles, teabags, planters, trash bags, electronic device components and all areas of consumer demand. Unitika has developed heat-resistant foam containers and food

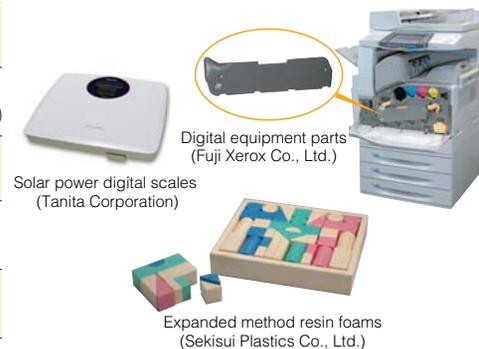
containers made of Terramac, which base ingredient is polylactic acid. These containers are the world's first polylactic acid products that can hold hot water inside and are microwave-safe. Terramac is used in applications such as mobile phone casings, which require demanding durability and heat resistance specifications, and digital MFP parts, which are required to be fire-resistant. Recently, we have used alloy technology to develop a new heat-resistant grade of resin for injection molding that features improved molding performance and shock resistance than conventional resins. This resin is used as an exterior covering for health meters and other applications. Combining the natural advantages of plant material with human technology, Terramac is an attempts to be the ideal material supported by both the Earth and human beings.



Terramac is extremely safe for human health and the environment.

Biodegradability:	JIS K6953 (ISO 14855) Passes the test of beneficial and extreme biodegradability and destructibility under controlled compost conditions.
Labeling, certification standard:	Conforms to GreenPla/E Identification and Labeling System/certification standard set by Japan Bio Plastics Association (JBPA). (Has been placed on Positive List, and been certified with the GreenPla/E Mark.)
Food sanitation:	Conforms to standards and criteria set forth in Ministry of Health, Labour and Welfare Notice No. 370 (Food Sanitation Law). Certified under US FDA/FCN (Food Contact Notification) No. 178.
Bacterial resistance:	Polylactic acid is reported to have antibacterial properties. (Bokin bobai, Vol. 29, No. 3, pp. 153 to 159, 2001)
Low combustion heat:	Low combustion heat of approximately 19 kJ/g is one-half to one-third the value of oil-based plastic, so can't harm incinerators. Does not generate toxic gases (dioxins, hydrogen chloride, NOx or SOx) when incinerated.

Can be used for these applications.



Terramac products with the Ingeo™ are in compliance with the NatureWorks Brand Policy, and uses NatureWorks® biopolymers. NatureWorks, Ingeo, and the Ingeo logo are registered trademarks of NatureWorks LLC in the United States and other countries.  
www.natureworkslc.com



## Anticorrosive Sheeting

### ● Segurova

Japan's River Law was partially revised in June 1997, and in line with the new law, Unitika Fibers developed Segurova, an anticorrosive sheeting material designed with the concern to natural environments and landscapes. Manufactured using a 3-D weaving technology to ensure that gaps and thicknesses are kept constant, Segurova resists water currents, and provides high corrosion resistance. Designed for weather resistance and endurance, it is mainly comprised of black clope-dyed polyester monofilament. To give some components partial dimensional stability, they use binder fibers with a core and pod structure. The sheet top and bottom layers have a honeycomb structure for easy filling with earth or sand. Segurova can be used in embankment protection works to reinforce the corrosion resistance of herbaceous plants such as lawns or seedlings. It stops corrosion by water currents at embankment surfaces and river banks, realizing a new anticorrosion sheeting-based construction method. Segurova has

already become the first product in the industry to be awarded the Public Works Research Center's Anticorrosion Sheet Performance Evaluation Certification (certification No. 0001).

**SEGUROVA**



## TOPICS

### Unitika on Show at the Tokyo Fiber '09 Milan Exhibition Biodegradable Planters

Tokyo Fiber '09 was held from April 21-27, 2009, at La Triennale di Milano, in Milan, Italy.

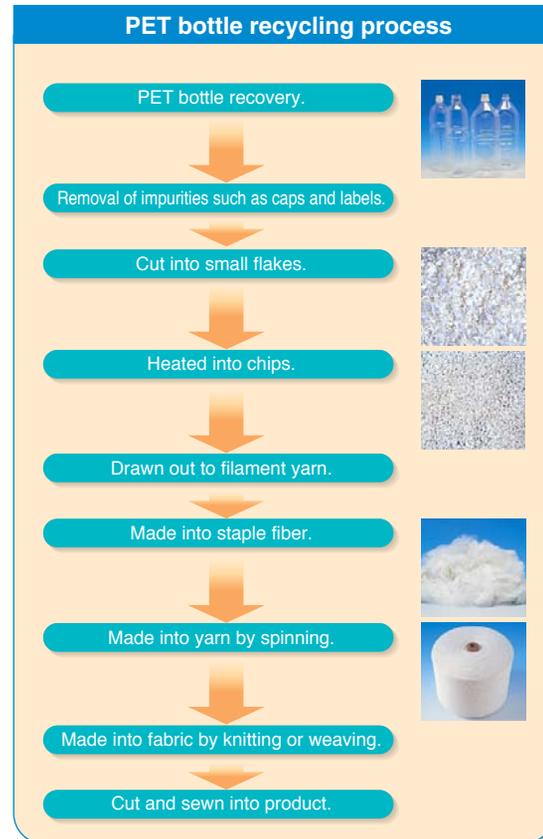
Unitika exhibited Segurova®, its anticorrosive sheeting made from its plant-derived biomass material Terramac®. Our design proposed a new type of environmentally-friendly planter. In collaboration with flower artist Makoto Azuma, we created a moss garden titled "Biodegradable Planter" in the middle of the exhibition room. A waterproof sheet was first laid out and covered with Terramac (Segurova). This was then covered with moss and Japanese royal ferns and scattered with grass seed. The grass grew 5 cm by the end of the exhibition. The popular ecological material attracted attention as a carbon-neutral planter that can be freely shaped and is quite unlike anything else on the market.



## Recycled Polyester Fiber

### ● Uniecolo

Demand for PET bottles has been growing year by year, and the cost of fossil fuel-based plastics is rising sharply. For that reason, used bottles have become an important resource themselves. As part of our efforts to preserve the environment, Unitika has been active in PET bottle recycling. Uniecolo was developed through our outstanding spinning technology. Offering soft hand-feeling and good bulkiness, it is an environmentally-aware fiber with the same features as conventional polyester, and designed to enable reuse of limited resources.



## Plant-Derived Biomass Material

### ● Castlon

Castlon is a 100% plant-derived nylon fiber with low environmental impact. It is made from the inedible seeds of the castor oil plant. It features a unique molecular structure unlike that of conventional nylon fiber that gives it excellent wear, bend, and fatigue resistance, as well as resistance to solvents, dimensional stability, and flexibility at low temperatures. This up-and-coming material is lightweight and while its characteristics make it perfect for use in sportswear and bags, non-clothing-related applications are also expected in the future.



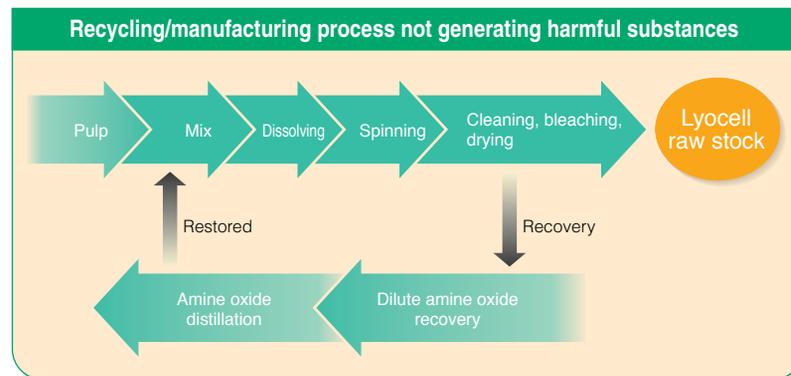
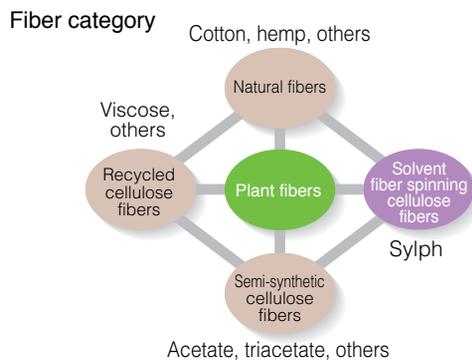


## New Natural Fibers

### Sylph

Good clothing materials need to be gentle, comfortable and versatile, while enabling attractive tailoring. Materials must meet all these requirements to make novel and comfortable clothing, and Unitika's groundbreaking new material Sylph generates just such new possibilities. More than ten years after the development of lyocell fiber (the raw stock fiber), Sylph was created by using a more evolved form of the raw stock fiber and the latest advanced fabrication technology. Sylph offers a larger variety of high

added-value materials, and raises the standard of quality for lyocell products. And since it is also extremely environmentally friendly, Sylph is setting the new standard for materials meeting 21st-century needs.



## Organic Cotton Material

### Naturecot

Naturecot is a material that employs organic cotton that meets Organic Exchange\*1 standards. In order to introduce a wider range of organic cotton products to consumers, Unitika was determined to develop an organic blend material that combines 100% organic cotton with style and functionality.

organization to guarantee that customers receive genuine organic cotton products. The company obtained Organic Exchange certification through Control Union\*2 and created a production system that ensures traceability.

Organic cotton is defined as cotton grown in soil that has not had any agricultural chemicals applied to it for at least three years. Unitika Textiles Ltd., decided to employ a third-party certification

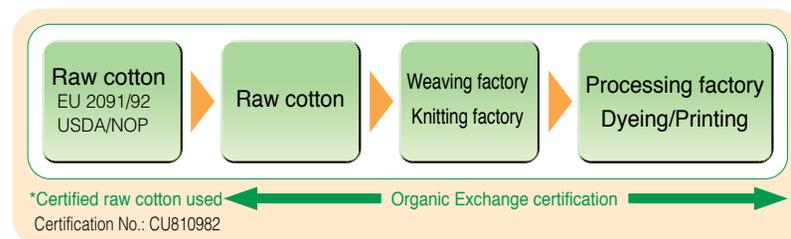
\*1 Organic Exchange: A US-based NPO that promotes organic cotton worldwide.  
\*2 Control Union: An organic certification organization based in Rotterdam, the Netherlands.



#### Characteristics

Fine thread sizes possible. Can also be used with "stand-out" materials.	Sylph series, Rorantan, and others
Can be used with environmentally-friendly materials.	Terramac, Uniecolo, and others
Can be used with "stand-out" spinning technology	Palpa, Freetwist, Spin-twisting, and others

#### Quality assurance

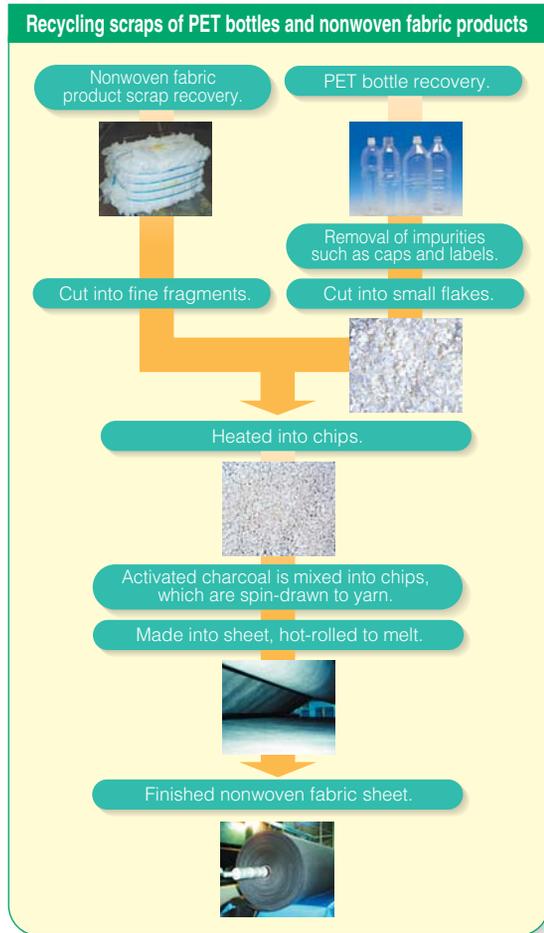


## Recycled Polyester Nonwoven Sheeting

### ● Ecomix

Since recycling is an important part of our environmental preservation efforts, Unitika has developed, by its outstanding spunbond technology, a polyester filament nonwoven fabric called Ecomix, made from scraps of PET bottles or nonwoven fabric products. Ecomix has already obtained the Japan Environment Association's Eco Mark certification (No. 00105029). With outstanding water permeability and endurance, Ecomix has been approved for a wide range of public works applications, including protective mats for water barrier sheets in waste disposal sites, sheets for erosion and torrent control in banking reinforcement construction and harbors, suction-preventing sheets for riverbank protection, and plastic board drains. With its cost-effective wide sheets and highly elastic structure, Ecomix can easily handle warping and projections, and is gaining popularity as sheeting for today's needs.

**エコミックス**



## Glass Beads

### ● Unibeads for use in Road Marking

Unibeads for road marking are microscopic transparent spherical glass beads. Utilizing the effects of recursive reflection lenses, they are used for a variety of road marking applications to help create safer roads by improving nighttime visibility.

They are a recycled product that makes use of glass cullet from waste construction materials.

Unibeads are a safe, environmentally-friendly product that does not leach harmful contaminants into the soil.

They have received certification (No. 05 131 001) from the Japan Environment Association as a product that helps reduce environmental impact.

As an environmentally-friendly green purchasing product they are

also registered as an Osaka Prefecture-approved recycled product recognized by the Governor of Osaka Prefecture (No. 20-126).



**UNIBEADS**  
ユニビーズ



## Production Site Information

### Uji Plant

- Location: 5 Uji-Tonouchi, Uji-shi, Kyoto, Japan 611-0021
- Site area: 311,781 m<sup>2</sup>
- ISO 14001: Certification No. JCQA-E-0058 Certification No. JCQA-E-0249
- Main products: Nylon resin, nylon fiber, engineering plastics, nylon/polyester film

	Substance	Unit	Regulation value	Measured value
Air	SOx total	Nm <sup>3</sup> /hour	29.1	5.3
	NOx	ppm	199	55
	Dust	g/Nm <sup>3</sup>	0.025	<0.001
Water	COD load	kg/day	1,131.4	397
	Suspended matter	mg/l	30	6
	Oil	mg/l	16	0.54
	Nitrogen	kg/day	722	193
	Phosphorus	kg/day	98	6

### Okazaki Plant

- Location: 4-1 Hinakita-machi, Okazaki-shi, Aichi, Japan 444-8511
- Site area: 313,865 m<sup>2</sup>
- ISO 14001: Certification No. JCQA-E-0292
- Main products: Polyester resin, polyester fiber, spunbond (filament nonwoven fabric), medical equipment, environmental business

	Substance	Unit	Regulation value	Measured value
Air	SOx total	Nm <sup>3</sup> /hour	34.89	0.03
	NOx	ppm	100	74
	Dust	g/Nm <sup>3</sup>	0.05	<0.002
Water	COD load	kg/day	718.7	70.2
	Suspended matter	mg/l	20	5
	Oil	mg/l	10	<1
	Nitrogen	kg/day	385	29
	Phosphorus	kg/day	51	6

### Toyohashi Plant

- Location: 101 Matsunami, Akebono-cho, Toyohashi-shi, Aichi, Japan 441-8527
- Site area: 270,804 m<sup>2</sup>
- ISO 14001: Certification No. UJL A16735 Volume: I (U-AI Electronics Corp.)
- Main products: Nonwoven fabrics (sheeting for civil works and roofing applications), biobusiness (cauliflower mushroom: Sparassis crispa), Printed circuit boards

	Substance	Unit	Regulation value	Measured value
Air	SOx total	Nm <sup>3</sup> /hour	0.49	0.031
	NOx	ppm	180	75
	Dust	g/Nm <sup>3</sup>	0.3	0.003
Water	COD	mg/l	11.9	7
	Suspended matter	mg/l	70	4
	Oil	mg/l	5	<1
	Nitrogen	mg/l	120	12
	Phosphorus	mg/l	16	0.32

### Tarui Plant

- Location: 2210 Tarui-cho, Fuwa-gun, Gifu, Japan 503-2121
- Site area: 156,224 m<sup>2</sup>
- ISO 14001: Certification No. JCQA-E-0323
- Main products: Cotton nonwoven fabrics, glass cloth

	Substance	Unit	Regulation value	Measured value
Air	SOx	K value	11.5	1.0
	NOx	ppm	180	120
	Dust	g/Nm <sup>3</sup>	0.3	0.004
Water	COD load	kg/day	108.4	27.0
	Suspended matter	mg/l	50	4
	Oil	mg/l	5	1
	Nitrogen	mg/l	120	1.9
	Phosphorus	mg/l	16	0.09



## Miyagawa Mill

Ceased operations in  
July 2009

- Location: 341 Honmachi, Obata-cho, Ise-shi, Mie, Japan 519-0593
- Site area: 103,404 m<sup>2</sup>
- Main products: Yarn and woven fabric made from wool and wool blended materials

	Substance	Unit	Regulation value	Measured value
Air	SOx	K value	17.5	1.5
	NOx	ppm	180	82
	Dust	g/Nm <sup>3</sup>	0.3	0.003
Water	COD load	kg/day	91.2	16.0
	Suspended matter	mg/l	30	2.0
	Oil	mg/l	20	3.4
	Nitrogen	mg/l	10	4.5
	Phosphorus	mg/l	1.5	0.04

## Sakoshi Plant

- Location: 846 Takano, Ako-shi, Hyogo, Japan 678-0171
- Site area: 191,236 m<sup>2</sup>
- ISO 14001: Certification No. JCQA-E-0093
- Main products: Vinyon fiber (for industrial materials such as cement, rubber reinforcements, tatami thread and papermaking binders)

	Substance	Unit	Regulation value	Measured value
Air	SOx total	Nm <sup>3</sup> /hour	9.1	3.8
	NOx	ppm	170	69
	Dust	g/Nm <sup>3</sup>	0.12	0.019
Water	COD load	kg/day	348	80
	Suspended matter	mg/l	3.9	1.96
	Oil	mg/l	10	1.26
	Nitrogen	mg/l	15	0.58
	Phosphorus	mg/l	2	0.04

## Tokiwa Mill

- Location: 88 Nakahara, Souja-shi, Okayama, Japan 719-1195
- Site area: 137,551 m<sup>2</sup>
- ISO 14001: Certification No. JCQA-E-0221
- Main products: Cotton 100% yarn, Blended yarn with synthetic & cotton, Synthetic woven fabrics blended with cotton

	Substance	Unit	Regulation value	Measured value
Air	SOx	K value	17.5	0.5
	NOx	ppm	130	82
	Dust	g/Nm <sup>3</sup>	0.3	0.007
Water	BOD	mg/l	80	3
	Suspended matter	mg/l	100	<1
	Oil	mg/l	2.5	<1
	Nitrogen	mg/l	-	-
	Phosphorus	mg/l	-	-

## Union Co., Ltd.

- Location: 10-1 Ohmine-Minamimachi, Hirakata-shi, Osaka, Japan 573-0145
- Site area: 6,886 m<sup>2</sup>
- ISO 14001: Certification No. JCQA-E-0835
- Main products: Glass beads

	Substance	Unit	Regulation value	Measured value
Air	SOx total	Nm <sup>3</sup> /hour	-	-
	NOx	ppm	180	35.0
	Dust	g/Nm <sup>3</sup>	0.15	0.024
Water	BOD	mg/l	300	18.0
	Suspended matter	mg/l	300	21
	Oil	mg/l	2	<0.5
	Nitrogen	mg/l	150	1.5
	Phosphorus	mg/l	20	0.17

Water quality refers to values for outgoing wastewater.

Note 1: The displayed regulation values are the most rigorous values mandated by law (Air Pollution Control Law or Water Pollution Control Law), regulations, prefectural guidance or conventions.

Note 2: Includes environmental impact from affiliates within site.

Note 3: SOx = sulfur oxides, NOx = nitrogen oxides, COD = chemical oxygen demand, BOD = biological oxygen demand

Note 4: The displayed air pollution values are the measured values for the major facilities at each site (totals are values for entire site).

Note 5: The displayed water pollution values are the highest values measured at the drain outlets at each site (load amounts are values for entire site).



Inquiries

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