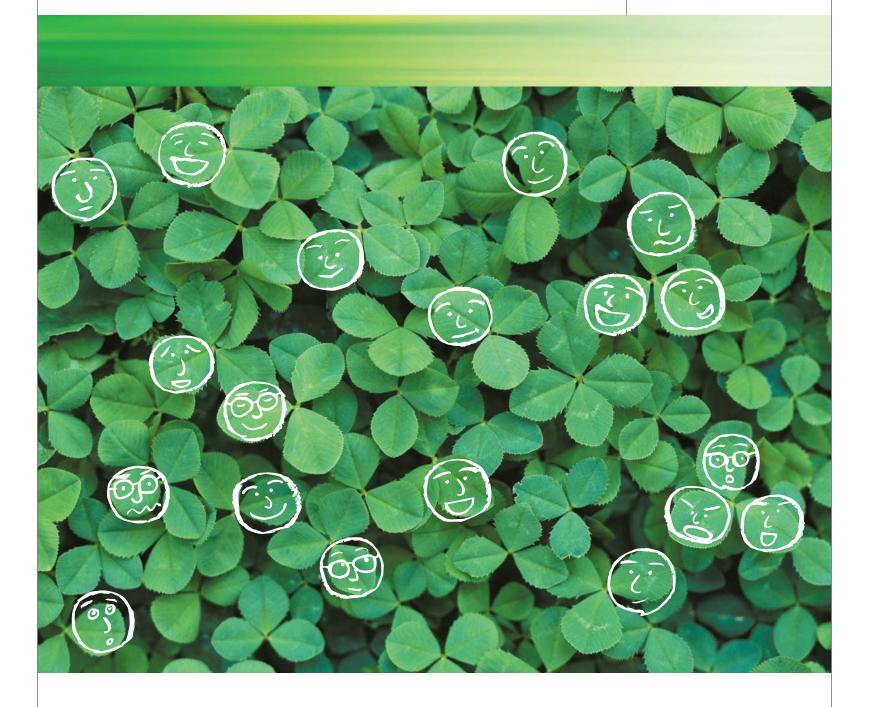
UNITIKA Group
Corporate Social Responsibility
Report 2007

# UNITIKA **CSR Report**





We Realize It!

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Actress and United Nations Development Programme (UNDP) Goodwill Ambassador

isako Konno

# Environmental Problems Problems That Face All Humanity

"Unitika created its Environmental Preservation Regulations in 1973 to enable a self-directed approach to work on the environment."

Konno: When did Unitika start its CSR activities?
Ohnishi: We first started working on the environment in the mid-sixties, inspired by a series of pollution problems caused by Japan's high overall growth. Then in 1973 we created our own set of Environmental Preservation Regulations. We strongly believed that environmental problems would become major issues affecting the planet. For this reason, we wanted to work on them through our own self-directed approach instead of just passively meeting obligations imposed by outside authorities-mandatory numerical targets-and leaving it at that. Today, the 21st century is being called the century of the environment, and those of us in the corporate world are being called on to engage in environmentally aware management.

Konno: I agree that measures to combat environmental problems should involve more than just vying to meet numerical targets. I think corporations and consumers both need to take a self-directed approach toward working on the environment.

Ohnishi: When we started our work on the environment, we had a problem with emissions gases

from one of the spinning mills in our business chain, and a problem with the water from a dyeing plant. So we started with the issue of how to make the emissions from our own plants as harmless as possible. Our objective as a manufacturer was to switch to an environmentally aware corporate culture free from harmful waste emissions. We're now expanding the scope of our environmental activities. We act as a focal point of technologies, selling the technologies refined during product development at our plants as systems for external buyers. We have also established environmentally aware business units that discover problem areas through various types of analysis.

Konno: Specifically, what activities have you worked on to switch to an environmentally aware corporate culture?

Ohnishi: For example, in 2004, we started operating a gas cogeneration system fueled by natural gas at our Uji Plant. The fuel oil that once powered the plant's boilers and generated electricity has been replaced by natural gas, generating electricity and steam, and creating more cost-effective power. Carbon dioxide emissions, a large cause of environmental problems, have been reduced by 30 to 40%, while dust and sulfur oxide emissions have been reduced by half. A similar system is now operating at our Okazaki Plant, and we plan to start installing these systems at other production sites.

#### **CSR Discussion**

Otofumi Ohnishi and Misako Konno discuss Unitika and the environment.



# "Rigorous quality standards are important in manufacturing, even for small parts."

Konno: With Unitika's many plants in regions throughout Japan, how do you educate all your employees about Unitika's CSR philosophy?

Ohnishi: We have created an organization called the Compliance Committee. It's part of an airtight system comprised of our Environment Committee, Central Safety and Sanitation Committee, a higher-level committee chaired by myself, as well as directors, executive officers, department heads, and other relevant employees. These organizations focus primarily on internal control, and have been responsible for environmental initiatives such as promoting ISO 14001 certification (the ISO standard for environmental compliance) among Unitika sites and affiliates. Nine of our domestic research and production sites, and twelve of our affiliates are ISO 14001-certified. While our overall ISO coverage is pretty much complete, we want more sites to become certified.

Konno: Today, food safety and the environment are areas where a single minute problem tends to result in widespread media attention. Dealing with crisis management issues must be a major effort for corporate top management.

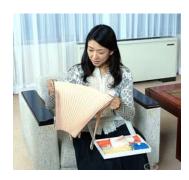
Ohnishi: Yes, it certainly is. The products we manufacture are materials used for a wide range of applications-whether they're food packaging products, or materials used in products ranging from vehicles to mobile phones. While we aren't often called upon directly to answer concerns over potential dangers to consumers, the products we manufacture pass into the hands of consumers, so we take our responsibility very seriously and set rigorous product standards.

Manufacturing a single product involves a number of

component elements, and a defect in any of them could lead to the failure of the entire product. So no matter how small it may be, each of our parts is manufactured under rigorous quality controls.

### "It would be good if plastic supermarket bags and other disposable plastic items were all made of Terramac."

Konno: When I looked at the Unitika Web site, I was surprised to see the wide range of business areas Unitika is now involved in-many more than when I was the Unitika 'mascot girl'.



Ohnishi: Personally, I think there are still many areas we're not involved in that we should be. Corporate value is determined by how often a company can create innovative concepts that embody its corporate philosophy. And since today the trend is toward increasing concern for the environment and consumer safety, corporations have to take on greater responsibility in these areas. Because just publicizing various types of complex environmental care isn't enough to completely eliminate consumers' concerns about pollution. More basic solutions are required. For example, Terramac is a recyclable material made by Unitika by polymerizing corn into a polylactic acid. It is used in applications such as a resin for plastic products, as a clothing fiber, and as a spunbond nonwoven fabric. It can also be used in petroleum-based films.



#### **CSR Discussion**

Otofumi Ohnishi and Misako Konno discuss Unitika and the environment.



Konno: It's interesting that Terramac is made from corn, a food resource. Do you use imported corn?

Ohnishi: While Terramac is made from corn, it's just the starch that's needed. As you're no doubt aware, a lot of corn is harvested in the US for use as livestock feed. We don't import the corn itself. First the corn is turned into starch, then sugar, then it's imported as a fermented polylactic acid.

Konno: Supermarket plastic bags have recently become a widely covered environmental issue in Japan. I think it would be good if disposable plastic items like that were all made of Terramac. Would it be economically feasible?

Ohnishi: One area we're working on now is getting municipalities in Japan to switch the garbage bags they distribute to Terramac bags. While I think they'll cost more than conventional garbage bags, I think people are going to become more aware of the

costs needed for environmental preservation.

# "Unitika has a successful track record of providing water treatment technology to China."

Ohnishi: What type of work do you do in your role as Goodwill Ambassador for the United Nations Development Programme?

Konno: Once a year I observe UN Development Programme projects in

developing countries, so that I can help publicize that work. In August this year I went to Cambodia. Cambodia rivals Vietnam in the speed of its growth, and is becoming more developed every year. The capital city of Phnom Penh and Siem Reap (where Angkor Wat is located) are extremely lively areas, with new buildings going up in rapid succession. I had actually visited the country once before in 1999, and was amazed to see how greatly it had changed in just the few years since then. But if you go to the less populated areas, nothing has changed. Just as in most developing countries, there's a huge difference between the urban and rural areas. Naturally, few rural homes have electricity or gas, and many people don't even have safe access to water-the most crucial requirement for human life. East Timor faces a slightly different set of problems. It has natural resources, planning and funding, but lacks the manpower to provide leadership. I wonder if Unitika's technology could be used to help developing Asian countries like these.

Ohnishi: I've heard that in China, people are forced to drink water they know is polluted. As part of our efforts to create an environmentally aware business, we've had a successful track record of providing water treatment technology to China. And since Japan is importing more and more food, the water used to cultivate or raise that food is effectively being used by Japan.

Konno: I've heard that importing grain is the same as importing the water used overseas. I hope Unitika's technologies will spread to other developing countries besides China

"Because Japan generated such a lot of environmentally harmful pollution, I think it has a duty to play a leading role in providing guidance."

Ohnishi: Human economic activity is ultimately a destructive activity. I think this destruction has accumulated over the years, and has led to the global environmental problems we have today. The problem may be that we don't feel the need to worry about today, tomorrow or the next day, but if today's problems continue unabated, the consequences will be severe.

Konno: But the UN is working to prevent that happening, and because Japan generated such a lot of environmentally harmful pollution

during its high growth era, I think it has a duty to play a leading role in providing guidance so that neighboring developing countries don't make the same mistake. I hope Japanese technologies can be put to greater use in developing countries.

Ohnishi: Absolutely. Instead of competing for international dominance or worrying about the balance of international power, Japan needs to put its energy-saving and environmental solutions technologies to greater use among developing countries. The problems are not just environmental. Food shortages caused by population growth are going to become more serious. These problems are not just problems for corporations to work on, but problems that face all humanity. Nations are going to need to deepen their understanding of each other and learn how to coexist while promoting civilized use of limited resources.

Unitika Group Companies

### Management



# Notes on FY 2007 Report

Unitika CSR Report 2007 covers the FY 2006 environmental and CSR (corporate social responsibility) activities of Unitika's domestic production sites and twelve domestic Group companies. It has been created in line with Guidelines for Environmental Reports 2003 issued by Japan's Ministry of the Environment. Along with reporting the Group's record of environmental achievements, 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 domestic production sites and Group companies covered by the report are listed on the right.

### Unitika Production Sites in Japan

Laboratories

Uji Plant Unitika Fibers Ltd.
Okazaki Plant Unitika Textiles Ltd.

Sakoshi Plant Unitika Plant Engineering Co., Ltd.
Tarui Mill Unitika Glass Fiber Co., Ltd.
Toyohashi Office Unitika Environmental Technical

Tokiwa Mill

Unitika Protec Sakoshi Ltd.

Miyagawa Mill
Kaizuka Office
Central R&D

Olilika Plotec Sakosii II
Nippon Ester Co., Ltd.

Ad'all Co., Ltd.

Unitika Spunbond Products Co., Ltd.

Unitika Logistics Co., Ltd. Unitika Uji Products Co., Ltd. Union Co., Ltd.

# Company Overview

Name: Unitika Ltd. Founded: June 19, 1889

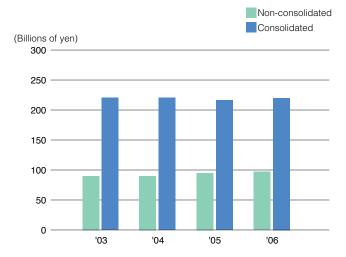
Capital: 23.7 billion yen (as at March 31, 2007)

Number of employees (consolidated): 5,030 (as at March 31, 2007)

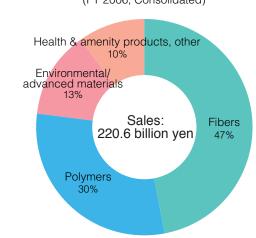
Sales (consolidated): 220.6 billion yen (FY 2006)

Main business areas (consolidated): Polymers (films, resins, chemical products, 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 (Non-Consolidated/Consolidated)



### Sales Share of Each Business Unit (FY 2006, Consolidated)





# **Corporate Governance**

Unitika's management vision is to be a corporation that makes its social presence enriches lives and helps the environment. To bring this vision to our business, we are implementing a new medium-term management plan called New Progress 8 (NP-8) that covers dual areas for improvement-our business strategy and our corporate governance strategy. This section describes the Group's ongoing corporate governance efforts.

### **Basic Policy for Corporate Governance**

In March 2006, Unitika announced a new medium-term management plan called New Progress 8 (NP-8) to be implemented over the three-year period through FY 2008. The plan covers both business strategy and corporate governance strategy. Under the rapid decision-making, we work on the management of valuing the stake holder through strengthening compliance and risk management, and 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.

#### **Overview of NP-8**



### **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, we created a basic policy on internal control, and established a new organization known as the CSR/Compliance Group. We also reviewed our management organization, making changes such as enabling directors to also serve as executive officers. These changes have improved the Group's overall management mobility and effectiveness.



# **Internal Control**

In April 2007, we created the Internal Control Promotion Office, and began implementing internal control for financial reporting.

### **Basic Policy**

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

### - Unitika's Basic Policy for Internal Control (Item Headings)

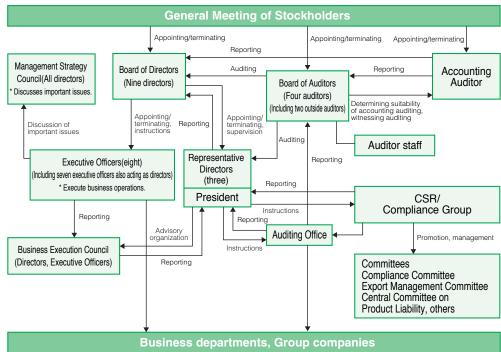
- Organization to ensure that the execution of job duties by directors and employees complies with all applicable legislation and the Articles of Incorporation
- 2. Items pertaining to saving/managing information on directors' execution of job duties
- 3. Regulations on loss hazard management; other 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. When auditors ask for appointment of employees to act as assistants

  Items pertaining to organization for those employees, and to their independence from directors
- 7. Organization used for directors and employees to report to auditors; organization for reporting to other auditors
- 8. 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.

### Organization



## **Approach to Compliance (1)**

In 2001, Unitika instituted a document called the Unitika Action Standards that sets forth specific standards for implementing the Unitika Action Charter of 1998. The Unitika Action Standards have been distributed to all company employees and directors, and we continue to promote corporate activities dedicated to upholding the law and a public-spirited corporate ethic. Another focus is ensuring product safety throughout manufacturing and sales processes according to Unitika's product safety management regulations. In 2006, we created an internal control system as specified by the Company Law to ensure Groupwide compliance.



# Groupwide Compliance with Unitika Charter and Standard 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. In addition to our routine work on interpreting and implementing the statutes and regulations relevant to our business areas, we make sure our employees are kept fully informed of our Action Standards by having department heads explain them whenever possible.

### **Unitika Charter of Corporate Behavior**

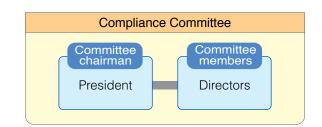
The Unitika Charter of Corporate Behavior is a set of guidelines on how to act for the public good by complying with laws and international standards and guidelines.

- 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.



# **Compliance Committee**

To ensure compliance with the Unitika Action Charter, we established the Corporate-Behavior Committee at the time of its creation. Chaired by the President, the Committee keeps employees informed on the Action Charter, sets specific plans and rules, and discusses and executes compliance verification. In May 2006, the Compliance Committee underwent a reorganization for improvement.



### Whistleblower Contact Points

In response to a corporate whistleblower protection law put into effect by Japan's government, we immediately implemented a set of whistleblowing (internal reporting) regulations and created two whistleblower contact points (one within the company and one outside the company). Employees can use them to immediately report any malfeasance or illegal activities they encounter. The regulations are part of the strict compliance measures we ensure within the company, driven mainly by the Compliance Committee.

### **Unitika's Whistleblower Contact Points**

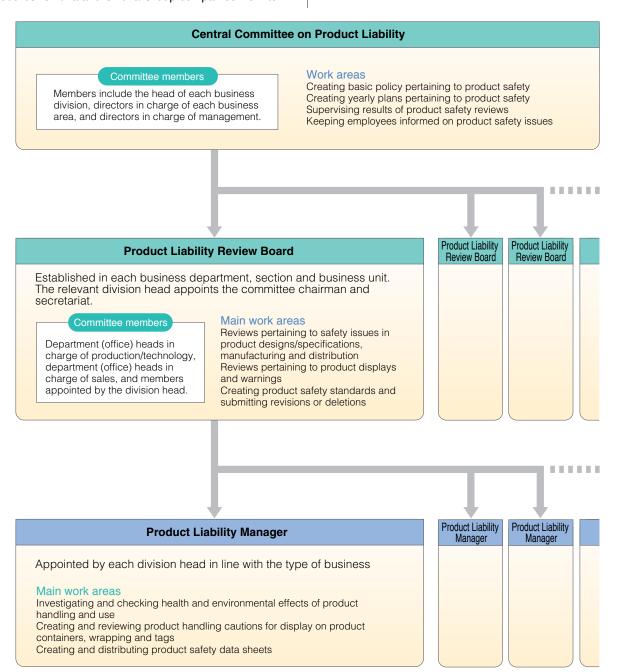


## **Approach to Compliance (2)**



# **Ensuring Product Safety**

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. They are implemented by the organization illustrated below, headed by the Central Committee on Product Liability.





# **Information 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.

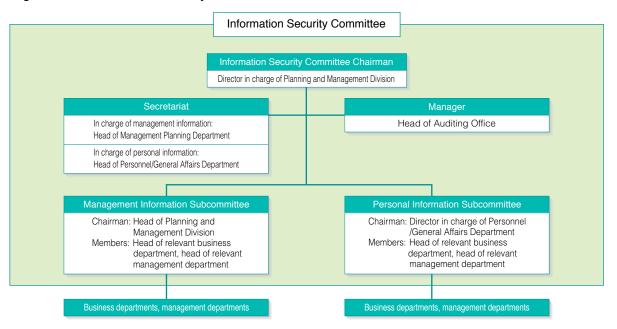
### **Information Security**

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 an 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.

### **Organization of Information Security Committee**



## **Protecting Personal Information**

In response to a personal information protection law put into effect by Japan's government, we have implemented a set of personal information protection regulations. The strictly worded and implemented regulations contain 33 detailed articles that

cover areas such as collection and use of personal information, appropriate management, auditing and disposal methods, and penalties.



# **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	
Continual awareness of the global environment	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.
Contributing through technology development	We aggressively research and develop technologies to protect and help the global environment.
Using resources and energy efficiently	We promote efficient use of resources and energy, and recycle limited resources.
Carrying out PR and educational activities	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.
Drawing on the complete range of Unitika Group competencies	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

FY 2005 was the deadline we set for meeting the four numerical targets of our third Environmental Plan. While we met two of these targets-reductions in industrial waste and energy consumption-we failed to meet the targeted improvements in the loss recycling rate in production processes and in our energy unit requirement.

We have examined and analyzed the data from our efforts, and applied it to the fourth Medium-Term Environmental Plan we have created, which started in FY 2006. More demanding targets have been set for items that met their previous targets, and we have renewed our commitment to improve the items that didn't meet their targets. The targeted improvement in the loss recycling rate in production processes has been set higher since we have begun full operation of a new thermal recycling program. FY 2008 is the deadline for meeting these goals.

### Goals to Meet by Deadline (FY 2008)

- 1. Industrial waste 16% reduction (Compared to FY 2004 level)
- 2. Loss recycling rate in production processes
- 7.0% improvement (Compared to FY 2004 level)
- 3. Energy unit requirement 1% improvement per year
- 4. Energy consumption quantity
  - 10% reduction (Compared to FY 1990 level; deadline is FY 2010.)



# 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 has aggressively worked on becoming certified under ISO 14001-the international standard for environmentally-aware corporate activities. All production sites due to become ISO 14001-certified had done so by May 2003. In FY 2003, we started activities to help our affiliates obtain ISO 14001, and have been conducting environmental audits of each company.

# 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).

## ISO 14001-Certified Unitika Organizations (as at March 31, 2007)

April 1999	Ad'all Co., Ltd.
November 1999	Unitika Protec Sakoshi Ltd.
November 1999	Unitika Sakoshi Plant
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 2002	Unitika Tarui Mill
December 2002	Unitika Textiles Ltd., Tarui Mill
December 2002	Unitika Plant Engineering Co., Ltd., Tarui Group
December 2002	Unitika Environmental Business Division
May 2003	Unitika Textiles Ltd., Miyagawa Mill
December 2003	Unitika Glass Fiber Co., Ltd., Tarui Mill



# **Environment/Safety Management Organization**

To implement CSR-driven environmental awareness and safety measures, we have established a management organization headed by the President, consisting of several committees and business divisions.

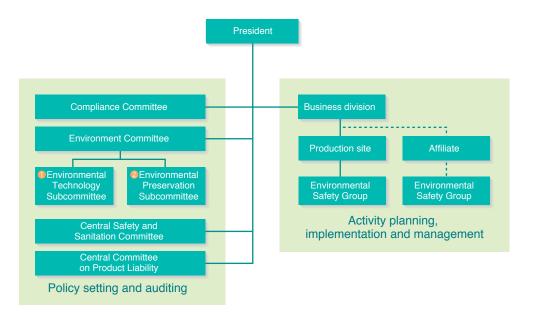
Unitika's original environment/safety management organization consisted of three committees and business divisions. A new committee (the Corporate Action Committee) was added in 1998. The organization was again expanded in 2006, to encompass the Compliance Committee, becoming a driver of compliance promotion. The Compliance Committee and Central Committee on Product Liability are described in detail in the section on Unitika's approach to compliance starting on page 6.

The Environment Committee, one of the original committees,

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. It contains the two subcommittees shown below. Specific topics are discussed and examined in detail conceptually and technically, providing the kernels of environmental measures.

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.

## **Environmental/Safety ManagementOrganization**



The Environment Committee contains the two subcommittees below.

- Environmental Technology Subcommittee:
  Works on (a) energy saving and (b) increasing the recycling rate, to find technology-based ways of reducing losses associated with businessactivities.
- ② Environmental Preservation Subcommittee:
  Sets goals for (a) reducing environmental impactand (b) reducing industrial waste, in line with environmental preservation laws and the UnitikaGlobal Environment Charter. Works on efficient implementation of these goals.

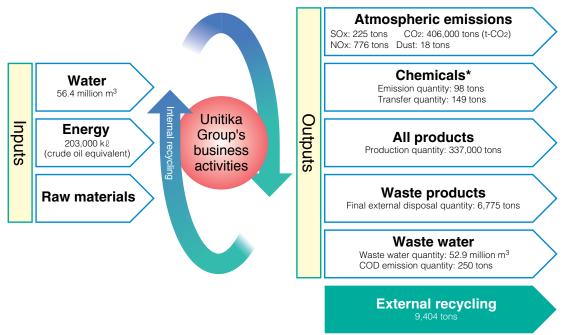


# Overview of Environmental Impact

# **Environmental Impact From Business Activities (FY 2006 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 inputs and outputs for FY 2006. The transfer and emission quantities of each chemical regulated by the PRTR (Pollutant Release and Transfer Register) Law are shown below.



\*Chemicals requiring registration under PRTR Law

### Number of chemicals requiring registration under PRTR Law: 18

- Acetaldehyde
- Antimony and its compounds
- $\ \ \ \varepsilon$  -caprolactam Ethylene oxide
- Ethylene glycol
- 1,4-dioxane
- Dichloromethane
- Dioxins
- Terephthalic acid
- Toluene
- Dichloropentafluoropropane
- 1,2,4-benzenetricarboxylic acid 1,2-anhydride
- Boron and its compounds
- Poly(oxyethylene) = alkyl ethyl
- Poly(oxyethylene) = nonylphenol ethyl
- Bisphenol A
- Bisphenol A epoxy resin
- Hexamethylene diamine

While chemical emissions fell year-on-year, transfer quantities increased somewhat. We will continue stepping up our efforts to maintain or reduce the environmental impact of chemicals.

We are stepping up work on setting voluntary reduction goals, investing in environmental preservation equipment, improving processes and optimizing operation.

PRTR (Pollutant Release and Transfer Register) is a system that requires companies to measure and report the quantities of chemicals emitted from their plants into the environment or transferred out as waste products. A PRTR law was put into effect in Japan in March 2000. Measurement, reporting and disclosure started with FY 2001 data.

# Work on Reducing Environmental Impact (1)



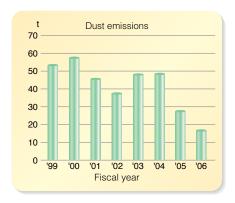
# Air Pollution

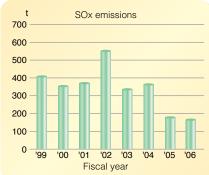
Unitika is minimizing its air and water pollution, and helping curtail global warming. Today's manufacturing industry is being called on to preserve the global environment, and we are actively working on environmental measures.

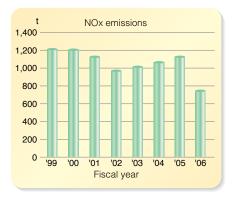
The Unitika Group succeeded in controlling air pollution in FY 2006, managing to curb emissions to a considerably lower level than in previous years. The success was largely the result of a gas cogeneration system fueled by natural gas that was put into operation at the Okazaki Plant in April 2006, following the start of a similar system at the Uji Plant. Both dust and NOx (nitrogen

oxide) emissions fell greatly in FY 2006, with dust down 38% from the previous year (to 17 tons), and NOx down 33% (to 765 tons). And with SOx (sulfur oxide) emissions down 8% (to 170 tons), air pollution has been greatly improved since last year.

To continue to step up measures to prevent air pollution, we are working on meeting our emissions reduction targets. For example, we are switching from fuel oil to LNG (liquefied natural gas), increasing the use of low-sulfur fuels, increasing boiler combustion efficiency and improving operation management efficiency to eliminate waste.



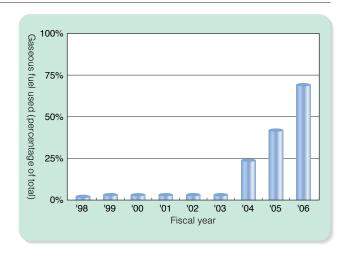




# **Switch to Natural Gas Moving Steadily Ahead**

The Unitika Group has been switching from fuel oils A and C to natural gas, a more environmentally sound alternative. We have increased the proportion of gaseous fuel used from 2% of the total in FY 1998, to 69% in FY 2006. The switch has greatly helped reduce SOx, dust and CO2, as well as reducing environmental impact through energy-saving.

(The diagram on the right shows the percentage of gaseous fuel used by the Unitika Group over the past several years.)

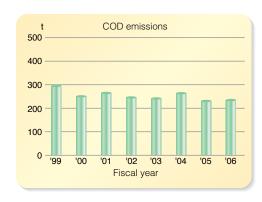


# **Work on Reducing Environmental Impact (2)**



# Water Pollution

The FY 2006 COD emissions volume was roughly the same as the previous year (234 tons), while the total waste water quantity was down 3%, at 52.87 million tons. To enable reductions independent from factors such as production volumes, we will work on developing new technologies, improving management of emissions sources, and recycling and reusing cooling water.



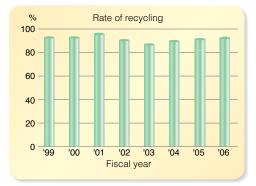


# **Waste Products**

The waste reduction target to achieve by FY 2008 set in our fourth Medium-Term Environmental Plan is a 16% reduction from the FY 2004 level. In FY 2006, we reduced waste 10% relative to the FY 2004 level, but the total waste volume was up 7.4% (466 tons) from the previous year. However, the increase was due to one of our plants discarding 1,300 tons of old equipment as part of an environmental improvement project. Everyday efforts at reducing waste are creating steady progress among our other plants.

The rate of recycling has generally been dropping relative to FY 2001 (the comparison year), but picked up somewhat starting in FY 2004. This fiscal year, the rate increased 1.2 percentage points from the year before, to 92.6%. The increase was aided by our work on thermal recycling using waste plastics. Unitika is more committed than ever to our work on waste reduction.





# Work on Reducing Environmental Impact (3)



# **Energy Saving (Global Warming)**

The Kyoto Protocol is an international agreement created to prevent global warming that went into effect in February 2005. The first year of the first commitment period is rapidly approaching in 2008. To meet the targets in the Protocol, production sites will need to reduce CO2 and other greenhouse gases, and take further steps to save energy.

To work toward these goals, Unitika takes precise measurements of energy consumption quantities and energy unit requirements.

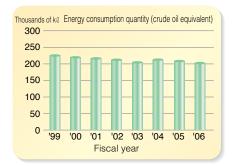
Our Medium-Term Environmental Plan targets an energy consumption reduction of 10% by 2010 (compared to the FY 1990 level).

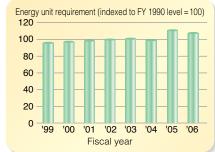
We had already achieved an outstanding 26% reduction in FY 2006. This success is mainly the result of steady energy-saving

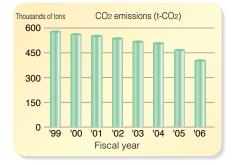
activities such as reducing Groupwide production volumes, process improvements, heat recovery and water reuse. Our energy unit requirement in FY 2006 improved about 1.3% from the previous year despite a drop in production and brand lineup changes such as model diversification.

We have succeeded in reducing the CO<sub>2</sub> emissions volume by a hefty 46% from the 1990 level. This decrease is largely due to a reduction in energy consumption, and to the gas cogeneration systems that were put into operation at the Uji and Okazaki Plants starting in 2005.

We will continue to work on preventing global warming from an all-encompassing perspective, examining various indices throughout the manufacturing process.







# 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.

We will shorten transport distances by lending, borrowing or swapping general-use products or materials of equal quality with other companies.

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.

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 2006, Unitika and Unitika Group companies were registered as the designated shippers for a total freight transport volume of 107,654 thousand ton-km, resulting in a CO<sub>2</sub> emissions volume of 36 thousand tons (t-CO<sub>2</sub>).

# Technology and Products for Environmental Safety (1)

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
- Agricultural community waste water treatment facilities Seepage water treatment facilities in
- final disposal sites Industrial waste water treatment
- Sludge reduction equipment
- Water supply membrane filtration equipment
- Sewerage facilities
- Granular desphosphorizing equipment Fishery community waste wat treatment facilities
- Waste water treatment facilities in garbage incineraters
- 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.



# **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

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

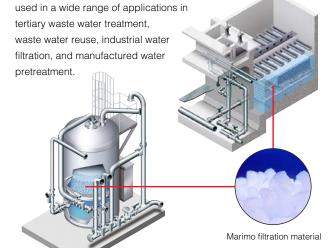
magnesium ammonium phosphate (MAP), a substance that can be effectively used as a fertilizer.





# **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



# **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

# Technology and Products for Environmental Safety (2)



# Garbage Processing Facilities

- Gasifying-melting furnaces
- Garbage crushing and sorting facilities
- Exhaust gas treatment equipment
- Regenerative-heat deodorizing equipment
- Incineration residue melting furnaces
- RDF (refuse-derived fuel) 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

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

# **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



xtracting a sample with a simple boring machine

# **Technology and Products for Environmental Safety (3)**



# Recycled Polyester Fiber

### Uniecolo

The demand for PET bottles is steadily increasing, and 533,000 tons\* of PET bottle resin was produced in FY 2005. Reflecting this increase, the rate of waste PET bottle recovery has risen to 65.6%. 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.

\*According to figures from The Council for PET Bottle Recycling.





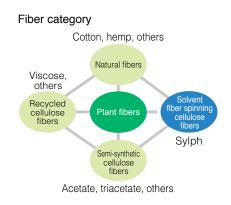
# **New Natural Fibers**

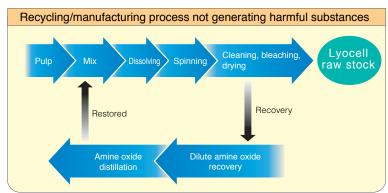
### **Sylph**

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.







# **Technology and Products for Environmental Safety (4)**



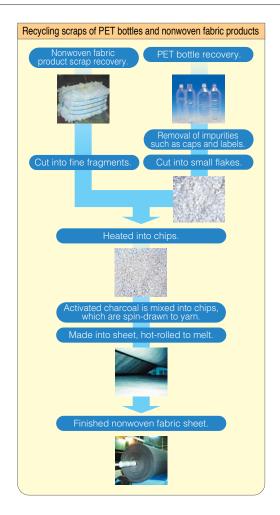
# Recycled Polyester Nonwoven Sheeting

### **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.





# **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).



# **Technology and Products for Environmental Safety (5)**

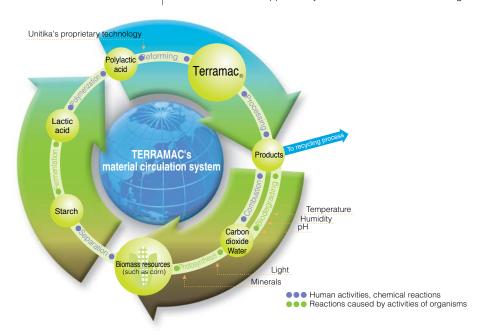


# Plant-Derived Biomass Material

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. Terramac is now an extremely promising alternative. It has a wide range of applications in clothing, plateware, cups, wrapping films, cosmetic bottles, teabags, planters, trash bags 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. One of Terramac's applications is for use in mobile phone casings, which require demanding durability and heat resistance specifications. Recently, we have developed new heat-resistant polylactic acid resins for injection molding. These resins can be molded at lower molding die temperature in less molding time compared to our previous heat-resistant grade Terramac. We have succeeded in greatly reducing environmental impact during molding of polylactic acid by developing this new heat-resistant grade polylactic acid. 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.

JIS K6953 (ISO 14855) Passes the test of beneficial and extreme biodegradability and destructibility under controlled compost conditions. Biodegradability: Labeling, Conforms to GreenPlaÆ Identification and Labeling System/certification standard set by Japan Bio certification standard: Plastics Association (JBPA). (Has been placed on Positive List, and been certified with the GreenPlaÆ Mark.) 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. Food sanitation:

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/q 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.







Products in compliance with the NatureWorks® PLA or ingeo™ Quality Policy are indicated by the logo on the left. 'NatureWorks PLA', the EcoPLA design and 'ingeo' are registered trademarks of NatureWorks LLC.



# **Environmental Accounting**

The Unitika Group implements environmental accounting as part of our environment-conscious business activities. We use the guidelines released by the Ministry of the Environment in May 2005 when calculating environmental accounting data, using the Environmental Guidebook put out by the Ministry in March 2001 as a reference. Unitika will continue to release clear and accurate environmental accounting data.

### **Purpose of Environmental Accounting**

Environmental accounting is carried out during environmental preservation work. It is designed to make environmental preservation more efficient by quantitatively identifying and measuring the amounts of investments and expenses for environmental preservation, and to make decision-making processes in a more reasonable way.

Disclosing environmental accounting information to the public fulfills our responsibility to keep stakeholders informed, and provides us with the feedback needed to step up our work on environmental preservation.

# Method of Tallying Environmental Accounting Data

Data provided by: Unitika's domestic production sites and 12 domestic Group companies

Applicable period: April 1, 2006 to March 31, 2007

C o s t s : 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 environmental investment for FY 2006 was 260 million yen, spent mainly on saving energy and recovering and recycling chemicals. Environmental expenses were 2.12 billion yen, mainly for waste processing (including recycling expenses), maintenance and management of equipment to prevent pollution, and product R&D for environmental preservation.

### **Environmental Preservation Costs**

(Millions of yen)

Category		Capital investment	Cost	Remarks
	Pollution prevention costs	62	616	Pollution (water, air and noise pollution) prevention measures
Business area costs	Environmental preservation costs	190	16	Energy saving, global warming prevention
	Resource recycling costs 9		881	Waste disposal, recycling
Upstream/dow	Upstream/downstream costs		132	Packaging material recycling
Management a	Management activity costs		91	Gaining environmental management system certification, environmental education, impact monitoring
R&D costs		0	314	Developing environmentally-friendly products
CSR costs		0	45	Forestation improvements, beautification campaigns
Environmental damage costs		0	27	Quantity-based tax on environmental impact of SOx emissions
Total		261	2,122	

### **Economic Effects**

The table illustrates economic effects by listing items with a clear basis for calculation, that have high substantive benefits for environmental preservation. The expenses saved from Unitika's FY 2006 energy-saving and waste reduction activities, and the amount of sales generated from recycling resources have been calculated. Note that inferred benefits have not been calculated, such as savings to the public from environmental preservation efforts.

(Millions of yen)

Item	Amount
Reduction in energy expenses	396
Waste reduction	34
Income from sale of recycled resources	204

## **Concern for Our Employees (1)**

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**

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.

The Career Plan Sheet gives employees the chance to appraise themselves and consider their future path. It is designed to give employees the chance to express themselves to their superiors, improve communication, and aid human resources development by giving management a way to expand job duties and improve personnel placement.

### **Rotation 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. For the past five years, women have accounted for 14.2% of the college graduates we have taken on and several women employees have risen to management positions.

# Number of Employees Taking Childcare or Caregiver Work Leaves

To enable female employees to balance work and family, and respond to the needs of Japan's aging society, Unitika allows work leaves for childcare or other caregiving. The system is open to both sexes, and male employees have been taking childcare work leaves since FY 2003.

	Number of employees taking childcare work leaves	Number of employees taking caregiver work leaves
FY 2002	24	2
FY 2003	25	2
FY 2004	27	1
FY 2005	17	0
FY 2006	27	3

### **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 2006, our rehire rate was 57.1%.

## **Concern for Our Employees (2)**



# **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 2006)



### Training for individual levels (514 students)

- 1. Training for promoted employees (253 students)
- Young employee education (261 students)
   New employee training, basic knowledge course, manufacturing department leader development course



### Specialized education (98 students)

- Competency improvement training
   Strategic management game training, better business negotiation training, business coaching training, solution management training, better technical development and planning training, legal training, logical communication
- 2. On-the-job development education Supervisor training, business leader training





# **Employee Mental Health**

Since Unitika feels that mental health is an increasingly important issue for employees as they move up the corporate ladder, 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. All directors and employees undergo human rights training at least once a year, and we have created the organizations shown on the right, which we administer. The Group is also a member of the Corporate Report Association of Human Rights Issues, so gathers information on human rights education and deals with a wide range of human rights issues.

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 for the problem among all employees.





# Giving Back to the Community(1)

Unitika is helping to preserve the environment and raise public ecological awareness through beautification campaigns, volunteering, and releasing newsletters, reports and various types of data.

### **Local 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. The Uji Plant is actively involved in volunteer activities to beautify the surrounding areas. As part of social action programs, the Uji Plant has conducted the cleanup activity (Clean Uji) around the Plant.



Other Unitika production sites are also giving back to the community by beautifying their surrounding environments. In September 2006, an environmental preservation council consisting of the major corporations in the city of Ako in Hyogo Prefecture organized a cleanup of Oshiro Street by Ako Castle in time for the Hyogo National Athletic Meet. The Sakoshi Plant helped in the campaign, taking part in the cleanup with employees from other corporations.



Cleanup around Oshiro Street (Sakoshi Plant)

In 2003, Unitika Union celebrated its 30th year in business 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 to cut back the undergrowth several times

per year. In September 2005, twenty-five employees performed this task to enable better tree growth, and took part in a "Forest Patrol" workshop on the importance and splendor of the woods. In April 2006, bracken was picked from Unitika no Mori, letting a large number of employees enjoy the wood's growth.

Responding to Japan's increasing focus on public-spirited volunteer projects, we 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.



Cutting back the undergrowth in Hidakagawa-cho



# Giving Back to the Community(2)

### **Local Environmental Activities**

Unitika provides Terramac and several other environmental products and services. To publicize them to a wider audience, we take part in various events to showcase them, and work with regional environmental organizations to actively promote environmental activities.

Unitika took part in various environmental events in FY 2006. On December 9th and 10th, the Uji Plant exhibited a Unitika booth at Kyoto Prefecture's Kyoto Environmental Festival 2006, showcasing the Group's work on the environment. The event's theme was stopping global warming by increasing recycling in the community.









gathering of environmental organizations based in the city of Ako, held on November 11 at an Ako supermarket. The event raised local residents' environmental awareness through fun events such as a recycled toymaking workshop, waste oil soap giveaway and trash recycling quiz. The Sakoshi Plant took part as a member of the council of major Ako corporations, and helped make the event a success.

### Topics

### **PET Bottle Recycling**

As stated in Unitika's Basic Environmental Policy, the Group is dedicated to environmentally aware corporate management methods, and takes part in a wide range of environmental activities. Unitika has developed several products made from recycled materials, such as Uniecolo, a recycled polyester fiber, and Ecomix, a recycled polyester nonwoven fabric sheet. These products are made from used PET bottles, some of which are recovered through PET bottle collection programs within our plants. Plant employees and their families help to wash, sort and collect used PET bottles. The bottles are gathered together at the Okazaki Plant, for shredding into flakes by a processing contractor. PET bottle collection programs are already underway at our Uji, Okazaki and Osaka sites, and employee

participation is rising. We plan to continue expanding the

programs to other production sites.







# Giving Back to the Community(3)

### **PR Activities**

Terramac is a biomass material made from a polymer derived from plants such as corn. To boost Terramac's popularity, educate the public about it, and incorporate it into our CSR activities, Unitika created paper fans with Terramac frames and handles. One thousand were made into 'picture fans' for children to draw on, and given away at the Miyako Ecology Center in Fujimori (in the city of Kyoto) in summer 2006. Kyoto University's 6th Children's Workshop also featured our picture fans. The Center's director, Professor Hiroshi Takatsuki (a noted comic artist) used the fans in an event he presented entitled 'Draw a Comic to Reduce Trash'. Takatsuki taught the eager children who took part how to draw their own original pictures on the fans.



The adults were as excited as the children to see how the finished fans turned out.

Terramac 'picture fans

### Topics

# **Eco-Products 2006**



Responding to increasing public concern for the environment, the Unitika Group took part in Eco-Products 2006, with a booth entitled 'Unitika Eco Land'. The exhibits were designed to appeal to visitors of all ages, while educating them about the Group's work on the environment. They spotlighted Unitika's Terramac biomass material which is currently attracting a lot of media attention, and covered water treatment, trash disposal, plastic recycling systems, recycled polyester fiber, and functional food ingredients making effective use of currently unused resources. Unitika's 'mascot girl' Erika Sakai also took part to help make the booth a success, providing information on environmental testing, materials and products relevant to consumers.

### **Enviro-Shiga 2006**

Unitika exhibited the Unirelief continuous water quality monitoring system in the Environmental Solutions Zone of

this trade fair held from October 25 to 27 at Shiga Prefectural Nagahama Dome. The Unirelief system uses fish as a water quality sensor.





# Giving Back to the Community(4)

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.

#### **Disaster Prevention**

The Uji Plant was officially recognized by Japan's Fire and Disaster Management Agency as an outstanding hazardous material plant, and was presented with a certificate and plaque from the Agency's director at a ceremony on June 4, 2007. The Uji Plant has chaired Uji's Hazardous Material Safety Association since its establishment in 1976. To ensure the safety of hazardous materials, it complies with Japan's Fire Law to provide maintenance and safety management for the storage and handling of hazardous material facilities. It has created a volunteer firefighting team that carries out training on simulated disaster sites, and has taken part in various other disaster-readiness activities. The plant is also active in community disaster-readiness activities during fire prevention campaigns and Hazardous Material Safety Week, such as planning street publicity activities and seminars, and putting up educational posters. These efforts earned the plant its recent award, giving it official recognition as a model business site for its role as an Uji-based hazardous material facility that actively contributes to ensuring the safety of the residents of the Uii and Kyoto Prefecture. On February 28 2007, the Uji Plant held a firefighting training session for the entire Central R&D Laboratories zone. The session trained over 200 participants on what to do in a hypothetical scenario in which a magnitude 5 earthquake causes a crack in a water boiler natural gas pipe, resulting in a gas leak and subsequent fire of unspecified origin. It was a joint session for Uii Central Fire Department and the volunteer firefighters of Unitika's Uji Plant, designed to train participants on the procedures for reporting, issuing instructions, and initial firefighting with indoor fire extinguishers. It gave the large number of participants the opportunity to experience a mobile earthquake simulator and fire safety smoke house



Joint firefighting training (Uji Plant)

On June 13 2006, a joint training session on hazardous material disaster defense was held at the Okazaki Plant, with about 100 participants from the Okazaki Fire Department and Unitika Group, and observed by about 80 members of the Okazaki Hazardous Material Safety Liaison Council representing various companies. In the hypothetical scenario used for the training, an earthquake caution has been announced locally for the Tokai area, followed by a large earthquake centered in the Mikawa area. Two workers have been injured while evacuating, and one is left on the roof of a hazardous material building. A crack formed in an oil retaining wall in a tank yard, then a fire started from pump equipment, spreading to an adiacent fuel oil tank.

After training to properly execute manual procedures such as communicating earthquake information, establishing a command center, reporting, issuing evacuation instructions and gathering information, trainees climbed to the roof to rescue and carry out the injured. They used the ladder of a fire engine provided by the Okazaki Fire Department's emergency and rescue teams, who had arrived on the scene. The training ended with hazardous material fire defense activities carried out jointly by the Okazaki Plant's volunteer firefighters and Okazaki firefighters, followed by reports.





Hazardous material disaster defense training (Okazaki Plant)



# Giving Back to the Community(5)

Unitika is aware of the fundamental role that safety and health play in business activities, and we hold Groupwide safety and health management activities to prevent work disasters.

### **Safety and Health Activities**

To raise employee safety awareness, Unitika creates medium-term (three-year) safety and health plans that we have been implementing since 1969, and we started holding yearly Groupwide safety and health conferences in 1974. Our latest medium-term plan (the 13th) runs from 2005 to 2007. It calls for research on the creation of a safety and health management system, and targets complete

eradication of potential hazards (zero hazards) through substantive safety improvements and ongoing risk assessments.





Unitika's rate of work leaves in FY 2006 was 0.36, an increase from FY 2005. We will continue making improvements to our safety and sanitation activities, aiming to keep the number of workplace and industrial accidents at zero.

### 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.

# **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 June 2007, 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: 2 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.

# **Production Site Information (1)**



# Uji Plant



Site manager: Taro Tokuzawa

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
	SOx total	Nm <sup>3</sup> /hour	29.1	4.1
Air	NOx	ppm	199	29
	Dust	g/Nm <sup>3</sup>	0.025	< 0.001
	COD load	kg/day	1,127.5	440
	Suspended matter	mg/l	30	6
Water	Oil	mg/l	16	< 0.5
	Nitrogen	kg/day	714	230
	Phosphorus	kg/day	96	6

# Okazaki Plant



Site manager: Kenichi Shimomori

Location: 4-1 Hinokita-machi, Okazaki-shi, Aichi, Japan 444-8511 Site area: 313,865 m² 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
Ī		SOx total	Nm3/hour	34.89	0.05
	Air	NOx	ppm	100	76
		Dust	g/Nm <sup>3</sup>	0.05	< 0.001
		COD load	kg/day	718.7	91.3
		Suspended matter	mg/l	20	9
	Water	Oil	mg/l	10	< 1
		Nitrogen	kg/day	385	35
		Phosphorus	kg/day	51	11

# Toyohashi Office



Site manager: Hitoshi Onozuka

Location: 101 Matsunami, Akebono-cho, Toyohashi-shi, Aichi, Japan 441-8527 Site area: 270,804 m<sup>2</sup> Main products: Nonwoven fabrics (sheeting for civil works and roofing

(sheeting for civil works and roofing applications), biobusiness (cauliflower mushroom: Sparassis crispa)

	Substance	Unit	Regulation value	Measured value
	SOx total	K value	0.49	0.029
Air	NOx	ppm	180	96
	Dust	g/Nm <sup>3</sup>	0.3	0.002
	COD	mg/l	11.9	7.4
	Suspended matter	mg/l	70	5
Water	Oil	mg/l	5	< 1
	Nitrogen	mg/l	120	14
	Phosphorus	mg/l	16	0.12
	NOx Dust COD Suspended matter Oil Nitrogen	ppm g/Nm³ mg/l mg/l mg/l mg/l	180 0.3 11.9 70 5 120	0.00

# Tarui Mill



Site manager: Kinjiro Funakoshi

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
	SOx total	K value	11.5	1.5
Air	NOx	ppm	180	83
	Dust	g/Nm <sup>3</sup>	0.3	0.006
	COD load	kg/day	108.4	57
	Suspended matter	mg/l	50	4
Water	Oil	mg/l	5	1
	Nitrogen	mg/l	120	2.2
	Phosphorus	mg/l	16	0.09

# **Production Site Information (2)**



# Miyagawa Mill



Hitoshi Yamaguchi

Location: 341 Honmachi, Obata-cho, Ise-shi, Mie, Japan 519-0593 Site area: 103,404 m² ISO 14001: Certification No. JCQA-E-0476 Main products: Yarn and woven fabric made from wool and wool blended materials

	Substance	Unit	Regulation value	Measured value
	SOx total	K value	17.5	1.8
Air	NOx	ppm	180	76
	Dust	g/Nm <sup>3</sup>	0.3	0.003
	COD load	kg/day	91.2	22.4
	Suspended matter	mg/l	30	1.9
Water	Oil	mg/l	20	2.6
	Nitrogen	mg/l	10	4.2
	Phosphorus	mg/l	1.5	0.02

# Sakoshi Plant



Site manager: Mitsuhiro Umino

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

	Substance	Unit	Regulation value	Measured value
	SOx total	Nm3/hour	9.1	5.0
Air	NOx	ppm	170	154
	Dust	g/Nm <sup>3</sup>	0.12	0.034
	COD load	kg/day	348	48
	Suspended matter	mg/l	3.9	1.95
Water	Oil	mg/l	10	0.93
	Nitrogen	mg/l	10	1.18
	Phosphorus	mg/l	1	0.10

# Tokiwa Mill



Taizou Ishida

Location: 88 Nakahara, Sosha-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 total	K value	17.5	1.0	
	NOx	ppm	130	91	
	Dust	g/Nm <sup>3</sup>	0.300	0.002	
Water	BOD	mg/l	80	1	
	Suspended matter	mg/l	100	< 1	
	Oil	mg/l	2.5	< 1	
	Nitrogen	mg/l	-	-	
	Phosphorus	mg/l	-	-	

# Union Co., Ltd.



Yoshiki Shimizu

Location: 10-1 Ohmine-Minami, Hirakata-shi, Osaka, Japan 573-0145 Site area: 6,886 m² Main products: Glass beads

	Substance	Unit	Regulation value	Measured value
Air	SOx total	Nm <sup>3</sup> /hour	-	-
	NOx	ppm	180	3.4
	Dust	g/Nm <sup>3</sup>	0.15	0.0034
Water	COD	mg/l	100	6.1
	Suspended matter	mg/l	150	2.8
	Oil	mg/l	4	1.1
	Nitrogen	mg/l	120	1.5
	Phosphorus	mg/l	16	0.1

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).

