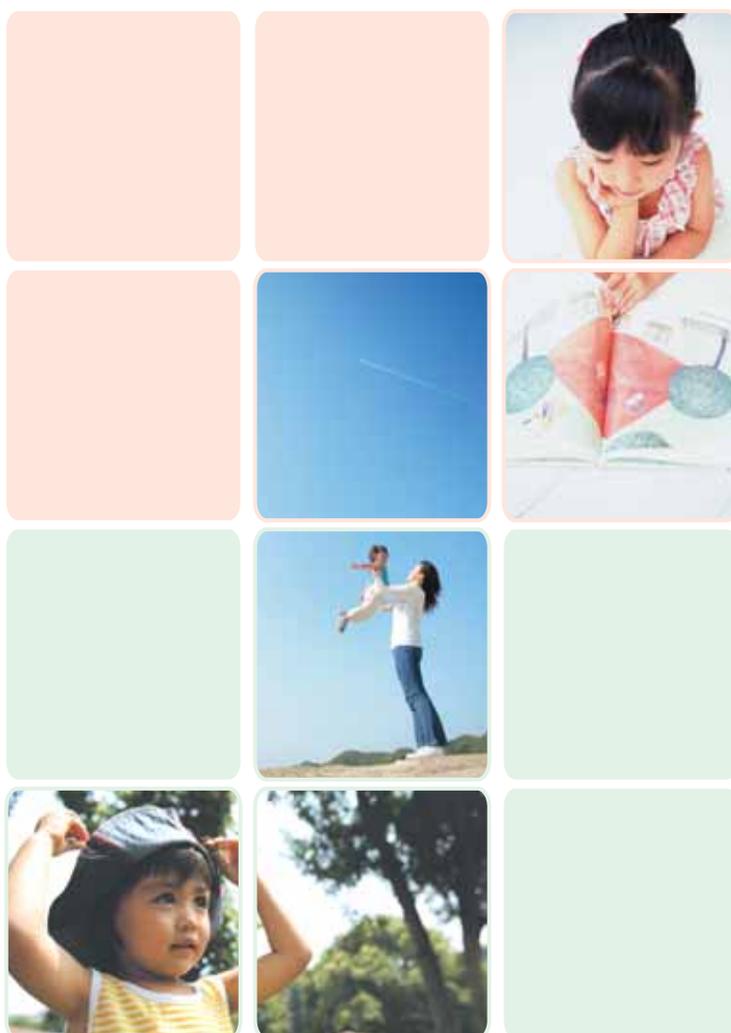


# CSR REPORT



2006  
CSR Report

Corporate Social Responsibility

# Message

## Introducing the 2006 CSR Report

Previously, ZEON has published its “Responsible Care\*<sup>1</sup> Activity Report” from the perspective of the chemical industry, in order to report to all the stakeholders involved in the ZEON group.

As exemplified by our Responsible Care activities, ZEON has always believed that a company is a social organization, and we have performed many corporate activities in the spirit of CSR (Corporate Social Responsibility). From this year we will publish a CSR Report in order to place further emphasis on CSR and achieve our aim of being a company that is trusted by society and of which its employees can be proud, strengthening our principles of “Speed”, “Dialogue” and “Social Contribution”.

ZEON is a manufacturer and in the past we have implemented a wide variety of Responsible Care activities, which form the basis of this report. We have created a “Q&A” compliance training text as a part of our compliance system, which is distributed to all employees in the ZEON group in Japan and all Japanese employees who have been posted overseas, to further spread the fundamental values of compliance.

We hope that this report will help achieve CSR understanding within the ZEON group or stimulate questions about it, enabling us to devote ourselves to creating a company that is trusted by everyone.

December 2006

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### Report Policy

This activity report was created in line with the following basic policy.

- (1) The report was written based on the CSR concepts and actions at ZEON. The report is based on past Responsible Care activities at ZEON, and the objective is to improve the satisfaction levels of all stakeholders.
- (2) We commissioned independent verification by the JRCC (Japan Responsible Care Council), in order to receive an evaluation of ZEON's activities from a third party.
- (3) Japanese affiliates with no production operations have also been included for the first time.

### Organizations Covered

ZEON and the following subsidiaries and affiliates are included

**Japan:** ZEON Kasei Co., Ltd. (including the Ibaraki Plant), ZEON Polymix Co., Ltd., Optes Inc., ZEON Chemicals Yonezawa Co., Ltd., ZEON Logistical Materials Co., Ltd., RIMTEC Corp., Tokyo Zairyo Co., Ltd., ZEON Environmental Materials Co., Ltd., ZEON Medical Inc., Okayama Butadiene Co., Ltd.

**Overseas:** ZEON Chemicals L.P. (USA), ZEON Chemicals Europe Ltd. (UK), ZEON Chemicals (Thailand) Co., Ltd., ZEON Advanced Polymix Co., Ltd. (Thailand)

### Period Covered

April 2005 to March 2006 (also includes some new information from after April 2006)

This report will be published annually.

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\*1: Activities in the chemical industry, which involve maintaining voluntary standards for the environment, safety and health in the development of production, logistical, usage (consumption) and disposal processes for chemical substances. The publication of activity results also attempts to stimulate a dialogue the local community and society.

\*2: An abbreviation of “Corporate Social Responsibility”.

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Head Office (Shin Marunouchi Center Building)

Renewing awareness of our corporate social responsibility (CSR), we seek to establish a company trusted by society and a source of pride for employees through our keywords “Speed”, “Dialogue” and “Social Contribution”.



In our 3-year mid-term management plan (PZ-3) implemented from 2005, we launched a management strategy emphasizing CSR, based on the concepts of “improving corporate value and achieving dramatic business development”. We created a CSR Promotion Department and CSR Activities Promotion Managing Director, and have been working to firmly entrench CSR throughout the company.

In terms of CSR activities up to now, our whole company has been engaged in efforts to “ensure safe and stable operation of manufacturing plants”, “strengthen the compliance system”, and “exist in harmony with local communities”. A special emphasis was given to CSR in the 3-year mid-term management plan (PZ-3) in order to promote our own unique CSR activities ensuring that each employee understands the importance of the plan.

Our corporate name, “ZEON” comes from a combination of two Greek words: “GEO”, meaning the “EARTH”, and “EON”, meaning “ETERNITY”. The ZEON corporate philosophy is to “contribute to the preservation of the Earth and the prosperity of the human race”, encompassing the basic concepts of environmental protection, contribution to society and sustainable development of the company. Based on this corporate philosophy, we have concentrated on developing products that facilitate environmental protection, using original technology that is not modeled on any existing technology, nor can it be emulated by others.

To date we have successfully developed “ZEORORA”, a CFC alternative semiconductor etching gas, “polymerized toner” products which achieve low energy consumption by having excellent fixing properties at low temperatures, “cyclo-olefin polymer” products, which have few impurities and a low environmental risk, and other products. We will continue to develop new eco-friendly products and contribute to society in this way.

We regard compliance issues, including corporate ethics, as more than simply abiding by laws and regulations, and are committed to acting sincerely according to the values and ethics expected of us as a company and individuals in society. Through promoting honest management we will ensure the development of our business in harmony with the local community and society.

The Employee observes a specified code of conduct “Zeon’s 7 Articles” and an action guide “Compliance Action Guide”, which concretely specifies the relationship with the stakeholders.

Our CSR activities aim to strengthen compliance and corporate governance, which form the backbone of a company. The goal is to contribute to and exist in harmony with society while continuing to provide products based on original unique innovative technology to our customers and society as a whole.

We will continue to place high priority on our corporate social responsibility, emphasizing communication with our stakeholders so as to be a company that is trusted, a company that is valued by society, and a company of which our employees can be proud.

Finally, I would like to take this opportunity to say thank you for reading this report, and we welcome your opinions and suggestions.

December 2006

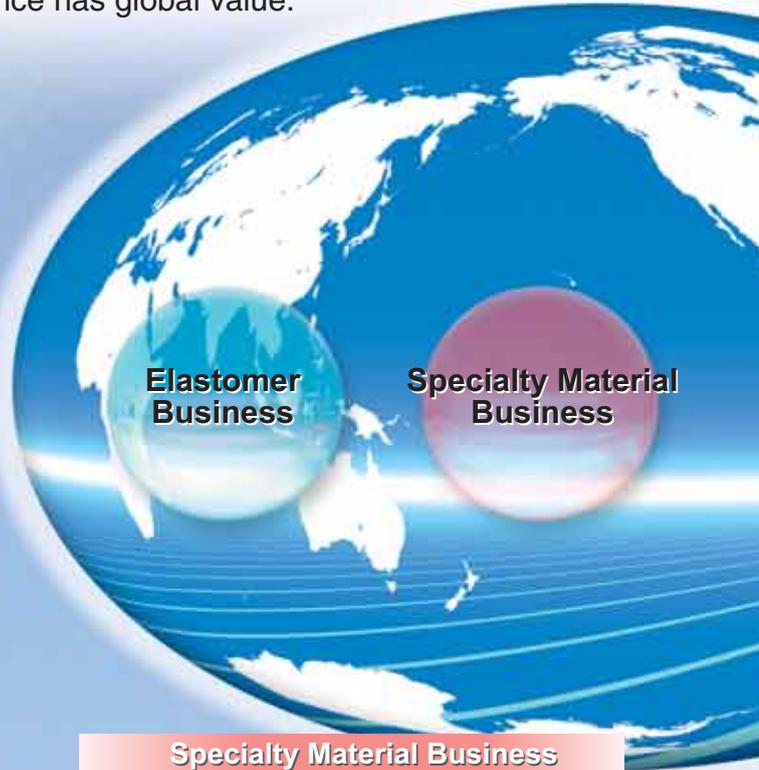
Naozumi Furukawa  
President and CEO

古河直純

"ZEON is contributing to the Earth and the preservation of the human race" through unique technologies and products.

ZEON offers unparalleled strengths in numerous specialty areas such as oil resistant special synthetic rubber, green note aroma chemicals (leaf alcohol) that smell like leaves, environmentally friendly lightweight clear resin cycloolefin polymer, and butadiene extraction technology.

ZEON takes advantage of unique innovative technologies that are "original and without comparison", adhering to the company principle of making a strong thing even stronger and the desire to be a company whose existence has global value.



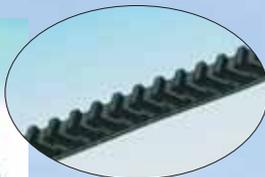
## ZEON's Business Sectors

### Elastomer Business

- **Synthetic Rubber**  
Styrene-butadiene rubber, butadiene rubber, isoprene rubber, high-styrene rubber, acrylonitrile-butadiene rubber, acrylic rubber, epichlorohydrin rubber, hydrogenated nitrile rubber, carbon master batch, etc.
- **Synthetic Latices**  
Styrene-butadiene latex, butadiene latex, acrylonitrile butadiene latex, acrylate latex
- **Chemical Products**  
C5 petroleum resin, thermoplastic elastomer SIS, concrete plasticizer, water-based dispersing agent, epoxy hardener, etc.



Gaskets



Timing belt using synthetic rubber



Gloves using synthetic latex

### Specialty Material Business

- **Chemicals**  
Aroma chemicals, organic synthesis chemicals
- **Information Materials**  
Photoresist, etching gas, products related to toner, binder resin for electromagnetic tape, etc.
- **Specialty Plastics**  
Cycloolefin polymer and processed products



Cycloolefin polymer



Raw film



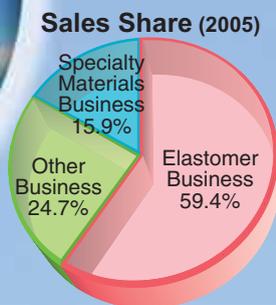
Cellular phone using specialty plastics



Perfumes using aroma chemicals



Other Businesses



Other Businesses (including affiliates)

- **RIM**  
Combined septic tank, housing equipment components, RIM combination liquid, construction/farming equipment components, game console cases, etc.
- **Medical Devices**  
Various therapeutic catheters, etc.
- **Others**  
Vinyl chloride resin (OEM), vinyl chloride compound, licensing of butadiene extraction technology, isoprene extraction technology, butane-1 extraction technology, synthetic rubber and latex manufacturing technology, packaging and distribution materials, housing/architecture materials



Construction equipment exterior covering made by RIM (Reaction Injection Molding)



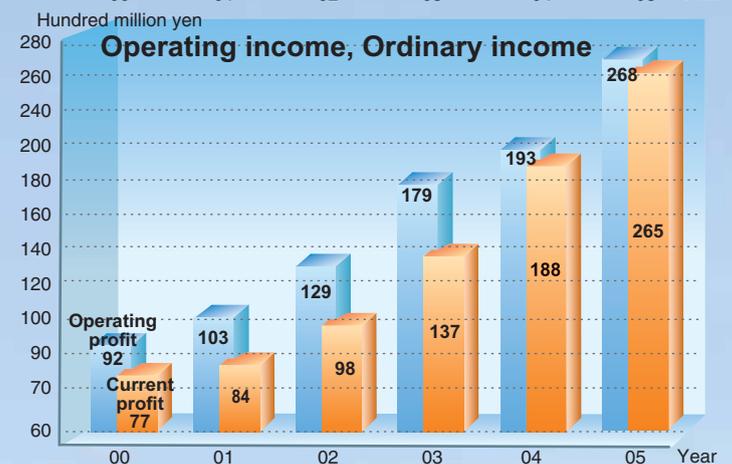
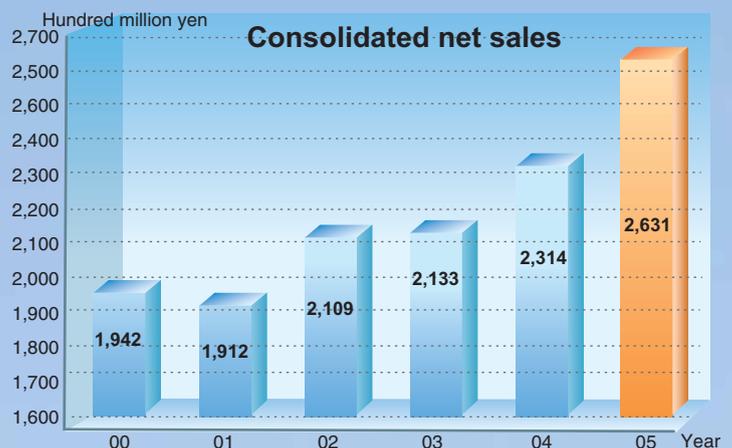
Returnable metal box pallet



Medical equipment (IABP balloon)

Company Profile

- **Company name** Nippon Zeon Co., Ltd. (ZEON CORPORATION)
- **Established** April 12, 1950
- **Capital** 24.2 billion Yen (As of March 31, 2006)
- **Employees** 1,992 (As of March 31, 2006)
- **Description of Business**
  - Elastomer Business**  
Synthetic rubbers, synthetic latices, chemical products
  - Specialty Material Business**  
Fine chemical products, information materials, specialty materials, etc.
  - Other Businesses**  
RIM combination liquid/molded item, medical equipment materials, genetic recombination vaccine, butadiene extraction technology, etc.
- **Head office** 100-8246  
1-6-2, Marunouchi, Chiyoda-ku, Tokyo (Shin Marunouchi Center Building)  
TEL.03-3216-1772 (Representative)  
FAX.03-3216-0501



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## Corporate Philosophy

ZEON will contribute  
to the preservation of the Earth and  
the prosperity of the human race

### CSR Concept

With a renewed focus on Corporate Social Responsibility (CSR), we aim to be a company that is trusted by society and of which its employees can be proud. Our keywords are “Speed”, “Dialogue” and “Social Contribution”.

Speed

Dialogue

Social  
Contribution

## ZEON's 7 Articles

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**Article 1** ZEON corporate ethics acts as a socially responsible organization.

**Article 2** ZEON values the environment and safety.

**Article 3** ZEON contributes to society with innovative technology.

**Article 4** ZEON delivers products that satisfy the customers.

**Article 5** ZEON values an organizations that makes the best use of individuals.

**Article 6** ZEON overcomes challenges through full participation, with results distributed fairly.

**Article 7** ZEON values speed of decision-making and delivery date of work.

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# Environment Philosophy and Safety Philosophy

## Environment Philosophy and Safety Philosophy

### Environment Philosophy

- 1.Environmental protection is a mission of a socially responsible organization.
- 2.Our basic belief is that environmental protection can be achieved with innovative technology.
- 3.Environmental protection will be achieved when all employees work together with a sense of mission to overcome challenges.

### Safety Philosophy

- 1.Safety is the foundation of all business activities and the greatest priority.
- 2.Our basic belief regarding safety is that we can prevent all accidents.
- 3.Safety will be achieved by performing the 5Ss and when everyone takes responsibility for their own actions.



## Responsible Care Policy

### 1.Prioritize the environment and safety

Protecting the environment and ensuring safety are preconditions for all business activities and are the most important priorities. We will work continuously to enact full accident prevention countermeasures, and provide education and training for all employees to prevent safety and environmental accidents.

### 2.Collect and distribute the latest information on chemical products

We will collect, store and manage the latest information required for the appropriate handling, use and disposal of chemical products, and distribute them to employees and users.

### 3.Minimize the discharge of toxic chemicals and waste

We will work to reduce the discharge of toxic chemicals, minimize waste, and develop technology for recycling and reusing materials.

### 4.Promote activities for conserving resources and energy

We will aim to dramatically reduce the amount of energy we use and help alleviate global warming by developing innovative technology and actively promoting resource and energy conservation activities that involve all employees.

### 5.Take the environment and safety into account when developing new processes and products and performing quality assurance

We will perform thorough environmental and safety evaluations from the initial stages of research, develop technology and products that take the environment and safety into account, and work to maintain and improve the quality of technology and products.

### 6.Live together with society

We will strictly observe regulations related to the environment and safety, whether the regulations come from the local community, the national government, overseas, or organizations to which we belong. While cooperating in these activities, we will work to enhance our communication with the local community and society in order to receive a better understanding of ZEON's activities and further strengthen the trust that society has in our company.

### 7.Perform continuous improvements

We will continuously improve our environment safety management and technology by operating a Responsible Care Audit, an Environment Management System based on ISO14001, an Occupational Health and Safety Management System.

# Corporate Governance and Internal Controls

Seeking to be a “company trusted by all stakeholders”, we are committed to thoroughly implementing compliance management.

## Our basic philosophy regarding corporate governance

Our company focuses on achieving benefits for our shareholders and other diverse stakeholders. We aim to increase profits while balancing various interests, constantly enhancing our corporate value. To achieve this, we have continued to put effort into corporate governance, building a system to allow efficient and healthy corporate management.

In addition, by establishing an internal controls system, we will clarify the functions and roles of each agency and organization within the company, enabling speedy decision-making and implementation. We will also conduct appropriate monitoring and information disclosure in respect of the progress

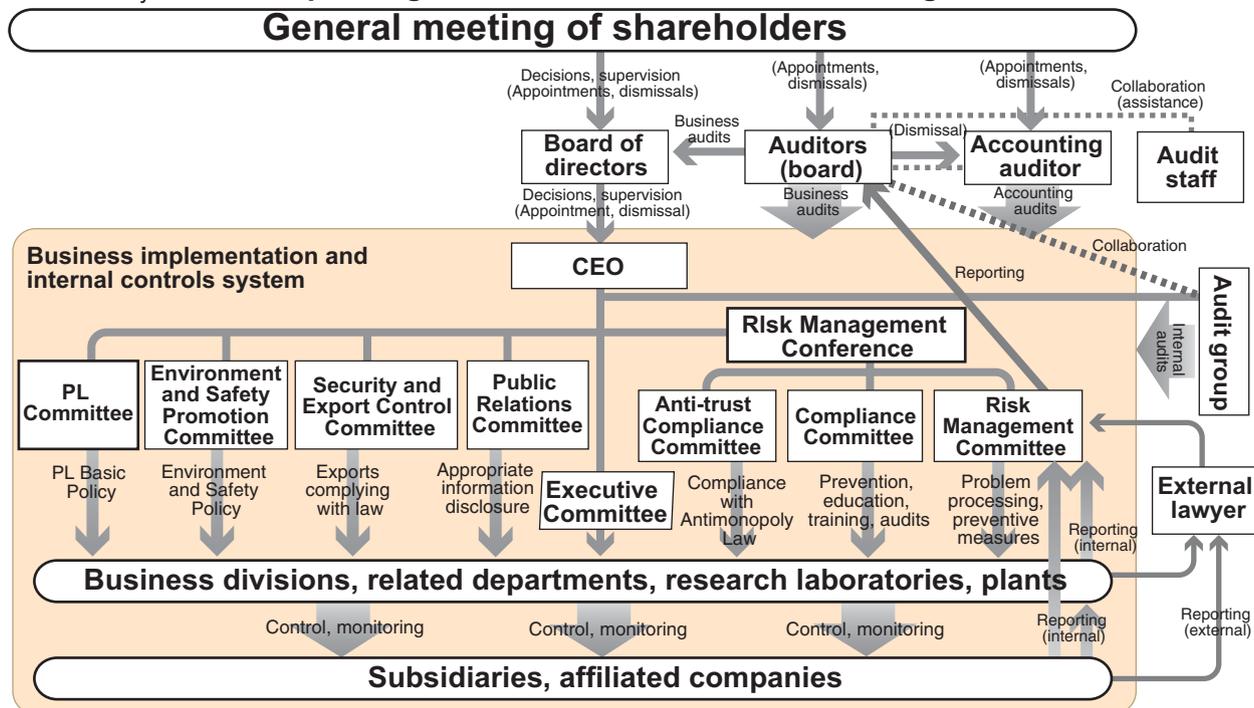
and outcomes of our activities, improving business transparency. In order to carry out these functions effectively, we are determined to enhance our corporate governance system.

### Internal controls system

At a Board meeting on April 28, 2006, before the Company Law came into force on May 1st, our company decided on a “Basic Policy concerning the Establishment of an Internal Controls System”.

In order to put this policy into practice, we have created a “Corporate Governance and Internal Controls System” and have been promoting activities for enhanced compliance and thoroughness in risk management across the whole of the ZEON Group.

Governance system “Corporate governance and internal controls diagram”

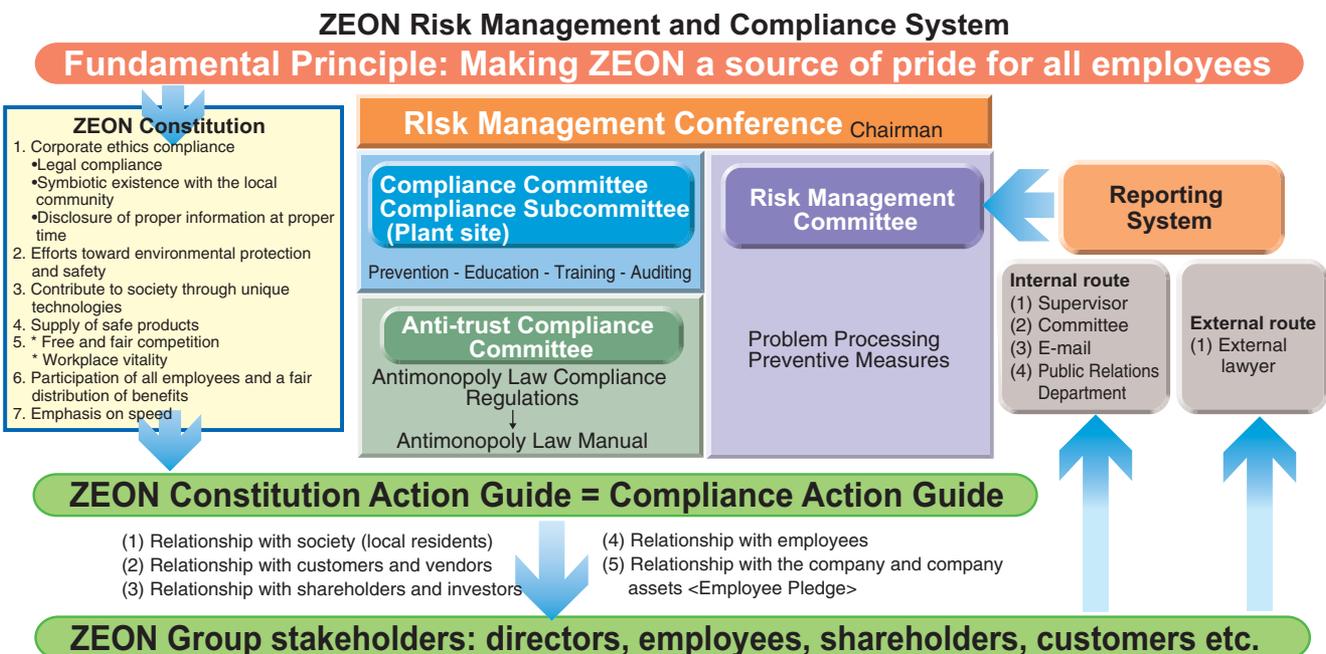


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### Strengthening the risk management and compliance system

We have been working to strengthen ZEON Group's risk management and compliance system through the creation and expansion of three committees: the Risk Management Committee, the Compliance Committee, and the Anti-trust Compliance Committee (established under the Risk Management Conference, which is chaired by the President). The Risk Management Committee is responsible for handling actual incidents that occur at the company and implementing measures to prevent recurrence. The Committee dealt with such incidents in 2005 and preventative measures were put in place. The internal reporting system established the previous year was utilized for some of these incidents.

The Compliance Committee is the body in charge of education, training and auditing activities to prevent incidents from arising. In 2005, the Committee issued the ZEON Compliance Textbook II, a Q&A booklet related to the Compliance Action Guide for executives and employees, and began educational activities at the workplace level based on case studies. The Anti-trust Compliance Committee is a special committee established to prevent in advance any breaches of the Antimonopoly Law by executives or employees of ZEON or the ZEON Group. In 2005, we performed multiple product price revisions due to the rise in the cost of oil, and the Anti-trust Compliance Committee performed a strict assessment of the revision contents.



#### Internal Reporting Flowchart



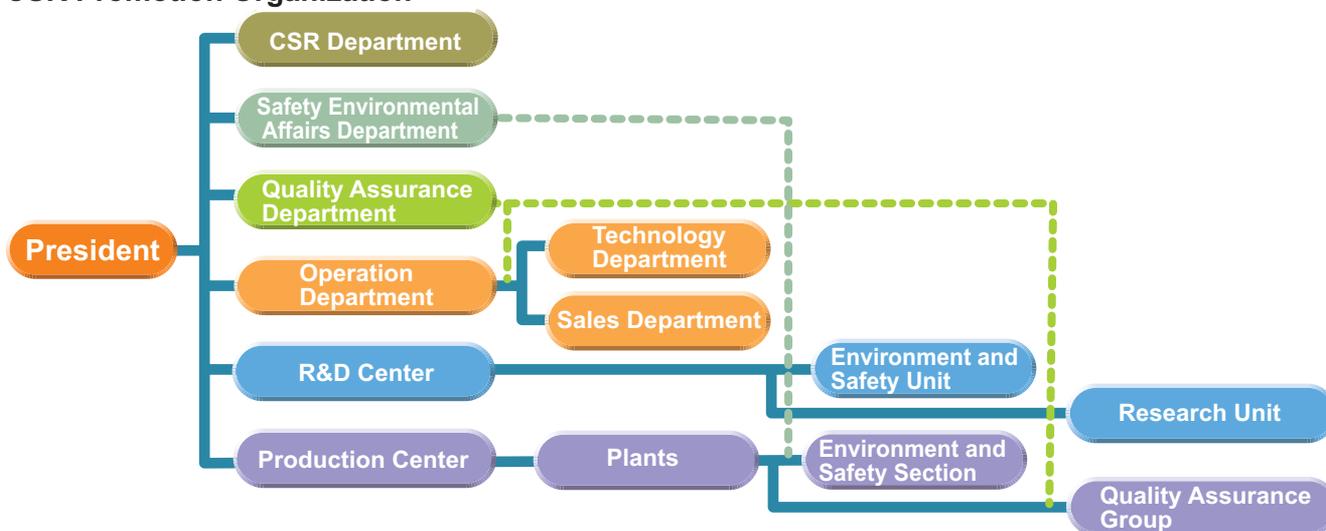
#### Risk Management Committee Reporting System and Informant Protection

A new route for reporting to the Risk Management Committee was introduced in April 2004 to improve systems for detecting hidden "risks". This route, named the Compliance HOTLINE and controlled by a reliable external legal office, has been prepared to supplement the internal reporting route that had been established previously for reporting compliance violations to the Risk Management Committee. In addition, procedures and measures to protect anonymity have been introduced in order for informants to feel safe when reporting via either route.

# CSR Promotion System

The CSR promotion system is made up of the promotion staff who were appointed in June 2005 and the CSR Department that was established in February 2006.

## CSR Promotion Organization



## Promotion System



# Performance

## 2005 Topics

### Transfer to a New Head Office

In March 2005, after 40 years in the same location, we moved our Head Office (from the Furukawa Sogo Building to the Shin Marunouchi Center Building). In April, we held a “New Office Tour”, a public welfare event jointly organized by management and employees. It was a great success with over 330 participants (about 100 families).



The reception is crowded with people



Hello Mr. President!

### Establishment of a ZEON Award for The Society of Polymer Science, Japan

The Society of Polymer Science, Japan, is a polymer research institute with a long history and it is a highly respected authority. The “Polymer Journal” that is published by this organization is a distinguished magazine that is internationally recognized for introducing the latest technology in English. We are very proud to have established “The Society of Polymer Science Japan ZEON Award (Polymer Journal article award)”.

This prize is awarded with the aim of encouraging the research and the training of young researchers both in Japan and overseas. The prize recipients will be young researchers who have had especially outstanding articles published in the “Polymer Journal”. Three people received the first award, one of whom was a university researcher.



## Relationship with Customers

### Quality Assurance

“ZEON delivers products that satisfy customers”: this is the fourth article of “ZEON’s 7 Articles”, the principles that form the basic policy at ZEON. We put this article into practice by providing a stable supply of products that satisfies customers.

#### Quality Management

The Quality Assurance Department strengthens the links between the plants, Operation Department and research units (R&D Center) in order to improve quality management on a company-wide basis and create an integrated organization for production, sales and technology.

In 2005, the Quality Assurance Department continued to maintain close communication with the quality assurance units at the plants, which form the backbone of the production system, in order to assess the company-wide issues that appear on the plant level and proceed with solving these issues.

#### Quality management that links production, sales and technology



#### Quality Assurance Mechanisms

In order to ensure the stable supply to customers of high-quality products, we have constructed various quality assurance mechanisms based on ISO9001:2000, an international standard for quality management systems.

#### Main mechanisms supporting quality assurance at ZEON

Mechanism	Objective
Mechanism for developing policy	Mechanism for identifying the issues at each organizational layer based on the President's policy, and then carrying out the required countermeasures.
Mechanism for management planning & review	Mechanism where the unit manager (plant manager and Operation Department head) evaluate the status of results in relation to the issues in the organizational layer, identify for themselves the strategy that can be taken for the next improvement, and which enables the continuous improvement of the organization's quality management.
Design reviews for the design and development of products	Mechanism for reviewing every stage of the product design and development to verify whether the product has been appropriately designed and developed.
Mechanism for product safety evaluations	Mechanism for evaluating product safety in all stages, from the initial stages of research to the sale of the product and finally to disposal, and for performing a multifaceted safety check for the product.
Mechanism for modification management	Mechanism for establishing rules when modifying a process, such as when improving a product, and for preventing in advance the occurrence of any issues.
Mechanism for dealing with abnormalities	Mechanism for pinpointing the cause of a process abnormality that occurs in the production equipment, and for eliminating the quality abnormality by removing the cause and taking a permanent recurrence countermeasure.
Mechanism for dealing with complaints	Mechanism for responding quickly and openly to customer complaints and improving quality by preventing recurrence.

#### Status of ISO9001 Acquisition

At ZEON Corporation, all four plants and the operation departments (polymer departments and specialty materials departments) have already acquired ISO9001:2000.

At our affiliates, ISO9001 certification registration has been performed, focusing on the production departments. Further, some affiliates have also performed assessment and

registration in combination with ISO14001 (environment management system) in order to construct a comprehensive management system.

#### Status of ISO9001 Acquisition at the ZEON Corporation

Target	Registration No	Registration Date	Date of Latest Update or Renewal
ZEON Kasei Co., Ltd., Ibaraki Plant	JET-0424	May. 2004	Apr.2006(renewal)
ZEON Polymix Co., Ltd.*	JSAQ793	Apr. 2004	Apr. 2006 (update)
Optes Inc	Takaoka Plant	JQA-QMA9271	Dec. 2002
	Sano Plant	JQA-QMA10869	Dec. 2003
ZEON Chemicals Yonezawa Co., Ltd.*	03319-A	Jun. 2006	-
ZEON Logistical Materials Co., Ltd.	JMAQA-705	Jul. 2000	Jun. 2006 (update)
RIMTEC Corp.	JQA-QMA11709	Oct. 2004	Oct. 2005 (renewal)
Tokyo Zairyo Co., Ltd.	JQA-QMA11669	Oct. 2004	Apr. 2006 (renewal)
ZEON Medical Inc.**	SY 50041053 0001	Apr. 2004	Apr. 2006 (renewal)
ZEON Chemicals L.P. (ZCLP)	CERT-01747	Apr. 2000	Mar. 2006 (update)
ZEON Chemicals Europe Ltd. (ZCEL)	FM01982	Jun. 1989	May 2006 (update)
ZEON Chemicals (Thailand) CO., Ltd. (ZCT)	C2003-02279	Sep. 2003	Jun. 2006 (update)
ZEON Advanced Polymix Co., Ltd. (ZAP)	149044	Feb. 2004	Jun. 2006 (update)

\* Assessment and registration combined with ISO14001

\*\* Assessment and registration is included in ISO13485 (quality management standard for the design, development, production and sales of medical equipment)

#### Status of ISO9001 Acquisition at the ZEON Corporation

Target	Registration No.	Registration Date	Date of Latest Update or Renewal
Takaoka Plant	JSAQ012	Ocr. 1994	Nov.2005 (renewal)
Tokuyama Plant	JSAQ013	Oct. 1994	Oct.2005 (renewal)
Kawasaki Plant	JSAQ016	Jan. 1995	Jan.2006 (renewal)
Mizushima Plant	JSAQ046	Jun. 1995	Jun.2006 (renewal)
Polymer Departments	JSAQ432	Feb.1999	Mar.2006 (renewal)
Specialty Materials Departments	JSAQ1972	Jun. 2004	Jun. 2006 (renewal)

## Chemical Safety and Product Safety

We are making every effort to ensure the safety of products delivered to our customers and chemical substances handled in laboratories & production plants.

### Worldwide Activities for Product Safety Review of Chemical Substances

We are actively involved in international research and safety reviews (listed below), which allows us to see hazardous properties of chemical substances from various perspectives.

#### (1) Voluntary Safety Review of Chemical Substances

We are a member of the HPV Initiative headed by the ICCA (International Council of Chemical Association) and a consortium of companies producing hydrocarbon solvents (HSJP) in association with European and American counterparts, actively promoting their causes by providing funding and data. In addition, we joined the JAPAN Challenge Program in 2006, which was launched in June, 2005.

- \* HPV Initiative: An initiative for hazard assessment of existing high production volume chemical substances
- \* Japan Challenge Program: A joint initiative of the Japanese Government and industry for collecting the safety information on existing high production volume chemical substances
- \* HSJP: Hydrocarbon Solvent Japan Panel

### Other Efforts for Chemicals and Product Safety

#### Implementation of Product Safety Review

Product safety is reviewed at every stage from the initial research stage to final product sales using our own checklist to verify the safety of products from various aspects.

#### MSDS Publication

Information regarding product safety is supplied to customers by MSDS (material safety data sheet). Since 1995, MSDSs have been published for all products and a portion of waste materials, even for materials not containing any hazardous substance (Reporting is required by Occupational Health and Safety Act, PRTR Law, or Poisonous and Deleterious Substance Control Law).

#### Education on Chemical Product Safety

Education on chemical product safety such as application procedure of new chemical substances and worldwide trend of chemical regulation has been promoted. We started to undertake and train our employees on GHS, which is a system for labeling and issuing documents for specific chemical substances which will be introduced in December, 2006 based on the revised Occupational Safety and Health Act.

- \* GHS: Globally Harmonized System of Classification and Labeling of Chemicals



HSJP Activity

#### (2) Support for Research Activities

Under ICCA, we are taking part in an international joint research project called LRI by providing financial support for fundamental research on effects that chemical substances may have on human health and the environment.

- \* LRI: Long-range Research Initiative, the research on the long-term issues related to the impacts that chemicals may have on the health of human and the environment.

#### (3) Research and Review on Corrective Actions for Environmental Problems

We are promoting the research and review on corrective actions for environmental problems related to synthetic rubbers as a member of the Far East subcommittee of IISRP.

- \* IISRP: International Institute of Synthetic Rubber Producers



MSDS

#### Actions for Green Procurement of Supplies Containing No Toxic Chemical Substances

In response to the RoHS directive effective on July 1, 2006, the requirement for displaying the content of specific chemical substances stipulated by the law for more efficient use of resources (J-Moss), we are delivering products that do not contain hazardous chemicals such as heavy metals including cadmium, lead, mercury, and hexavalent chromium and some bromic fire retardants meeting the requirements on their inclusion limits.

- \* RoHS Directive: Restriction of the use of certain Hazardous Substances
- \* J-Moss: Japan-The marking for presence of the specific chemical substances for electrical and electronic equipment (JISC 0952)

# Relationship with the Local Community

Our relationship with the local community is described in “Living together with the local community”, included in the site reports of the four plants. Requests for plant tours and internships have increased even from schools outside the local community. Each plant responds positively to such requests.

## Donation of 400,000 pull-tabs

At the Tokuyama Plant, to celebrate the acquisition of ISO14001 certification and as a part of creating an environmentally-friendly workplace, from June 1999 employees collected about 400,000 or 110 kg-worth of metal can pull-tabs from home, which were donated to the Shunan City Council of Social Work. These were collected over six and a half years. The last one was collected this year, the year of our 40th anniversary.

This news was reported on three local television stations and in five newspapers.



110 kg of pull-tabs

## Plant tours for overseas technicians

After receiving requests from the local chamber of commerce and industry and the Ministry of Economy, Trade and Industry, the Kawasaki Plant held plant tours as a part of training for employees who work in Japanese companies in various countries including China, Thailand and Indonesia.



Overseas Tech Training

## Industrial sightseeing tour: reception

An industrial sightseeing tour is available in Yamaguchi Prefecture, where members of the public can visit local plants to gain an understanding of business activities and for the practical education of elementary and junior high school students. The Tokuyama



Tour plant reception

Plant is involved in this program.

## Exhibition at the World Expo 2005

The World Exposition 2005 was held in Aichi Prefecture for six months, with the theme of “Nature’s Wisdom”. The Specialty Chemicals Division exhibited optically active matsutake mushroom alcohol in the NEDO\* pavilion from August 22 to September 6.

\*An abbreviation for New Energy and Industrial Technology Development Organization, an independent organization. This organization performs research and development projects in line with the industrial and technological policies of the Ministry of Economy, Trade and Industry.



“The Smell of Matsutake” exhibit

## Internships

The Kawasaki Plant received requests for internships from technical colleges in Akita, Tomakomai, Hachinohe, Hakodate and Asahikawa, and ran 2-week programs at its research unit. Other plants have also taken a positive role in similar programs.



Five student interns (front)

# Relationship with Employees

## Creating a Motivated Workplace

In order to create a workplace where its employees are motivated, ZEON has a mechanism where employees can engage in dialogue with management (including the President), and where employees who achieve results are rewarded.

### Dialogue with Management

The keywords in ZEON's management policy are "Speed", "Dialogue" and "Social Contribution", and we place particular emphasis on the importance of dialogue (communication). The President himself leads by example and creates many opportunities for dialogue with employees.

#### Annual Management Policy Explanation Meeting

At the beginning of every financial year, the President tours the Head Office and all the plants to hold meetings to explain the annual policy to all employees.

In these meetings, the President reviews the state of the company in the previous year and explains the basic policy and important issues for the coming year. This becomes a guide for all employees, helping them to tackle issues in the new year.

#### Dialogue between Plants and Management

Twice every year the management, including the President, visit the plants to perform diagnosis of the activities there. Particular emphasis is placed on dialogue with Plant management and the staff responsible for the production floor, in order to "constantly work to ensure safety and stability at the workplace".

The President and management also visit the R&D Center once a month to check the progress of research and give guidance on environmental and safety issues. In this case too, dialogue with the researchers is very important.



Diagnosis by the top management

### Dialogue between Employees and Management

Dialogue also takes place in various forms between ZEON and the ZEON labor union, based on a shared awareness of the importance of corporate social responsibility and continuous growth.

#### Employee and Management Panel, Employee and Management Council

As a part of our corporate philosophy of "creating a ZEON group that makes all of its employees proud",

as usual we held an energetic employee and management panel meeting in 2005. There were discussions and exchanges of information concerning various issues, from management to general working conditions, aiming to achieve the objective shared between employees and management of "creating a safe workplace and a stable production system".

In addition, an employee and management council is held to decide issues where mutual employee and management agreement is required, such as for working conditions and the salary system.

#### Joint Employee and Management Safety and Environment Research Committee

Every year a Joint Employee and Management Safety and Environment Research Committee is held, where labor union officials and management, including the director in charge of the environment and safety, jointly tour the plants to check the current safety and environment conditions. This committee focuses in particular on eliminating industrial accidents, which is a concern shared by both employees and management. Employees and management check together preventative actions and countermeasures in order to ascertain the issues. Then recommend corrective action plans to the Plant Manager. The level of consideration given to the working environment and training of employees is also checked.

### Award System

#### ZEON Challenge Award System

We run a company-wide award system that rewards individuals or groups who achieve outstanding results. This is one of our methods for deepening solidarity and energizing the company based on our keywords of "Speed", "Dialogue" and "Social Contribution", which represent a dynamic corporate climate that is always ready to take on challenges.

Award Type	Award Frequency	Description
President's Award	1/year	Awarded to groups that achieve highly successful results and individuals who tackle issues in an innovative and daring manner, which leads to positive results
Department Head Award	1/year	The department heads assess the everyday activities of each department and award this prize for a theme that is inspired by ZEON's 7 Articles and has achieved excellent results
Department Monthly Prize	1/month	The department head awards this prize to an individual or group that, based on his judgment, achieved remarkable results within the applicable period

# Relationship with Employees

## Fulfilling Employment

We take action to create a fulfilling workplace where people from a wide variety of backgrounds can express themselves through their work.

### ZEON Master System

In April 2006 a reemployment system called the “ZEON Master System” was established. In this system, employees who reach the retirement age of 60 can continue to work within the ZEON group until they reach the age for receiving a public pension. Employees can take a holiday to refresh themselves of up to 30 days when they become a Master employee

### Employment of Disabled People

The proportion of disabled people employed at ZEON is 1.41% (as of March 1, 2006), which is below the statutory rate of 1.8%. In the future we would like to promote the employment of more disabled people by creating an environment in which it is easy for them to work. First focusing on the clerical departments.

## Good Working Conditions

We have instituted a system for providing better working conditions for our employees, which will bring out the best of their talents.

### Discretionary Labor System

Under certain conditions, a specialist work discretionary labor system is used for employees in research departments and a planning work discretionary labor system is used for employees in management departments sales and planning departments.

### Flextime System

A flextime system was introduced where day shift workers can decide their own start time and finish time, as long as it does not interfere with their work. A half-day holiday system is also available, which can be used for hospital visits or when errands need to be performed.

## Personnel Training

We have instituted training for all positions and job categories to create an environment that gives support for self-education and encourages each individual to develop their skills.

### Employee Training

ZEON makes all its employees aware of the management philosophy to cultivate a spirit of cooperation between workers to develop and improve the skills required for performing their jobs. We have established a basic training policy for educating the talented personnel that are required for developing the company, and are continuously holding training courses.

<b>Management Training</b>	MBA, MOT training (dispatch to specialist organizations), others
<b>Line Management Training</b>	Management training, new manager training, plant supervisor training, others
<b>Training by Job Category</b>	Prospective employee training, new employee training, employee promotion courses, supervisor promotion courses, management promotion courses, others
<b>Skills Training</b>	Intellectual property training, production technology training, equipment management training, environment and safety training, quality management training, others
<b>General Training</b>	Language training (English, Chinese), self-taught TOEIC, support for external training courses, others

## Support System for Acquiring Official Qualifications

ZEON has instituted a system that makes it easy to obtain qualifications, where the costs for acquiring and renewing the public qualifications that are required at work are paid by the company. In addition, to stimulate further career development, we have introduced a system that provides financial incentives for employees to obtain specified public qualifications that have a high difficulty level.

## High Quality of Life

In addition to better working conditions, we provide systems and benefits that ensure a high quality of life for all our employees.

### Accumulated Holiday System

At ZEON, paid leave that will expire can be accumulated. Up to 40 days can be accumulated and used later. These holidays can only be taken for the following reasons: (1) Unable to work due to personal injury or sickness, (2) Unable to work due to nursing care (3) Unable to work due to health maintenance or disease prevention measures such as complete medical checkup (4) Lifestyle management holiday (a system that provides up to five consecutive days' holiday for employees who have reached 50 and would like to think about their plans for life) (5) Nursing care of children.

### Benefits

Benefits help all employees feel pride in their work and are focused on the following four items: (1) Workplace environment improvements, (2) Dialogue (workplace recreation), (3) Health, (4) Self-reliance. In terms of dialogue, recreation activities between employees and management are carried out at each plant. In terms of health, training for improving physical and mental health is provided.

### Welfare Association

ZEON has established a Welfare Association as one of its benefit policies. Based on a spirit of mutual aid between its members, the purpose of this association is to give assistance to its members and their families. Benefits include retirement benefits for those with serious disabilities or scholarships for orphans.



Employee Training

# Relationship with Shareholders and Investors

We have created a special section of the website for individual investors and first-time visitors to the ZEON website. The concept behind this special section is to provide an easy-to-understand and user-friendly overview of ZEON.

- \* What kind of company is ZEON?
- \* History of ZEON
- \* Strengths of ZEON
- \* Environmental and social contribution
- \* ZEON is everywhere!

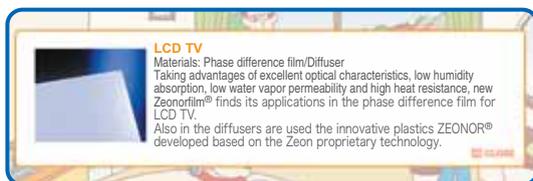
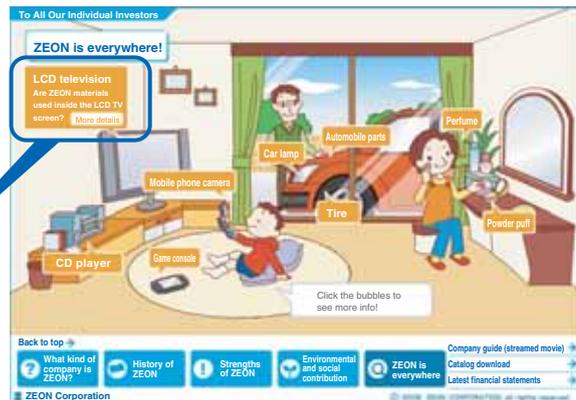
In these five sections animated characters are used to explain the contents. In addition, the Annual Report and Responsible Care Activity Report (CSR Report from 2006) can be browsed as an e-book and a company guide movie stream can be viewed.



<http://www.zeon.co.jp/kojinir/index.html>

## In the “ZEON is everywhere!” section:

Explanations are given for various examples on how ZEON products are used for a wide range of products from our everyday lives.



## In the “Environmental and social contribution” section:

Describes how ZEON products can be useful for environmental protection.



### Products that take energy conservation into account

Development of synthetic rubber tires for low fuel consumption. Contributes to CO<sup>2</sup> reduction.



Go to next product →

### Making products that take energy conservation into account

We developed the first practical application in the world of a polymerization method toner for copiers and printers for achieving both energy conservation and high image quality.

### Toner Electron Micrograph



← Back to previous product    Go to next product →

### Making products that take energy conservation into account Making products that protect the ozone layer and prevent global warming into account

The hole in the ozone layer is a serious problem that affects all living things. We developed and launched on the market ZEORORA, a CFC-substitute etching gas for leading-edge semiconductor production. It is highly rated all over the world.

← Back to previous product

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# Product Development

## Eco-friendly Product Development

### Products Promoting Energy Saving

#### Synthetic rubber for fuel-efficient tires

ZEON maintains the top position in production capacity of general-purpose rubbers used in such products as fuel-efficient automobile tires and abundant varieties of oil resistant special rubber including "Zetpol".

Through this, a general-purpose rubber for tires that saves energy loss by 20% was developed. Fuel consumption can be reduced by 1.5% (estimate by ZEON) by application of tires made of this rubber, and this contributes to reducing CO<sub>2</sub> emissions.



Automobile tire made of fuel-efficient synthetic rubber

### Products Promoting Energy Saving

#### Polymerized Toner "Zeoglobule®"

Toner used in such products as copiers has been conventionally manufactured by the pulverization method. It had been known that manufacturing energy consumption could be reduced and fine toner particles can be obtained by polymerization method.

The polymerization method microcapsule toner developed by ZEON contributes to high quality picture, and at the same time makes it possible to lower the fixing temperature also contributing to faster printing, compact printers, and energy savings.



Toner electron microscope image

#### Conventional toner (pulverization method)

##### Disadvantages

- Limitation in lowering fixing temperature
- Limitation in decreasing particle size
- More energy consumption

#### Polymerized Toner (Zeoglobule®)

##### Advantages

- Low fixing temperature through encapsulation technique
- High imaging quality through small particle diameter
- Reduced energy consumption through low temperature fixing



Adhesive tape products where thermoplastic elastomer is applied

### Products Contributing to Solvent-free Technology

#### Non-solvent type thermoplastic elastomer "Quintack®" for adhesive tape

Previously, volatile organic compounds (VOC) were released into the environment because solvents were used in the adhesive tape manufacturing process.

An adhesive tape manufacturer can produce tape products without solvent based on hot melt technology by application of "Quintac®", which has a block structure of polystyrene and polyisoprene. In addition, this technology contributes to saving of energy which used to be required to evaporate solvents in the post manufacturing process.



### Products Promoting Solvent-free Technology

#### C5 petroleum resin "Quintone®" for hot-melt road marking

Hot melt road marking using Quintone®C200 series as a binder component are road marking paints that can be used in construction without solvents. This contributes to VOC (volatile organic compound) reduction.

Road marking paint using C5 petroleum resin



EPA Ozone Protection Award



Detergent Objects

Products contributing to ozone layer protection and global warming prevention

Next generation fluorocarbon detergent "Zeorora®H"  
Etching Gas "Zeorora®ZFL-58"

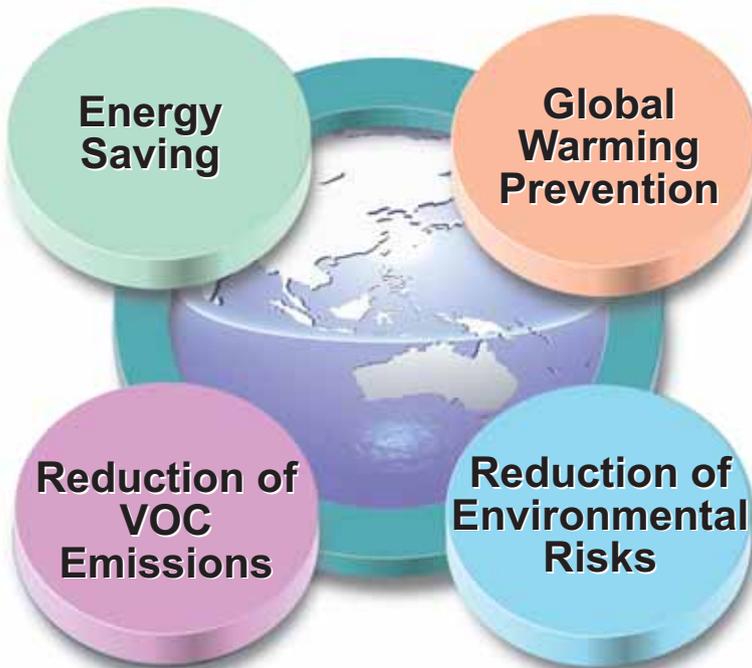
Conventional detergents for semiconductor manufacturing, not only chlorofluorocarbons but also many chlorofluorocarbon replacement materials, have been regarded as a big problem for global environmental protection, because of their ozone depletion potential and global warming potential.

Zeorora®H is a detergent developed by ZEON with zero ozone depletion and with low impact on global warming while maintaining the characteristics of existing fluorocarbon detergents such as non-flammable, fast drying and low toxicity. This point has been acclaimed and received many commendations such as the U.S. EPA Stratospheric Ozone Protection Award. It is now exhibited at the "Aiming for Green Chemistry" booth at the National Science Museum in Tokyo.

In addition, "Zeorora®ZFL-58", a low-dielectric constant interlayer insulation film (Low-K) material used as an etching gas in the manufacture of semiconductors also has zero ozone depletion potential and is also an environmentally friendly material due to its extremely short atmospheric lifespan.



National Science Museum Exhibit



Lenses and Prisms

Products made with Zeonex, Zeonor

Products with low environmental risks

Cycloolefin polymer "ZEONEX®"  
"ZEONOR®"

These are new thermoplastics having superior physical properties developed with our unique technology in consideration of environment, safety and health.

Compared to other plastics, impurities are minimal, substances with low environmental risks are used as ingredients and no hazardous gases are generated at incineration. It is widely used in various fields including cameras and OA equipment, liquid crystal and optical component applications, medical and inspection equipment applications, containers and electronic devices.



Syringes



Compact discs



Large-size light guiding film for notebook PCs

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## Activity Results

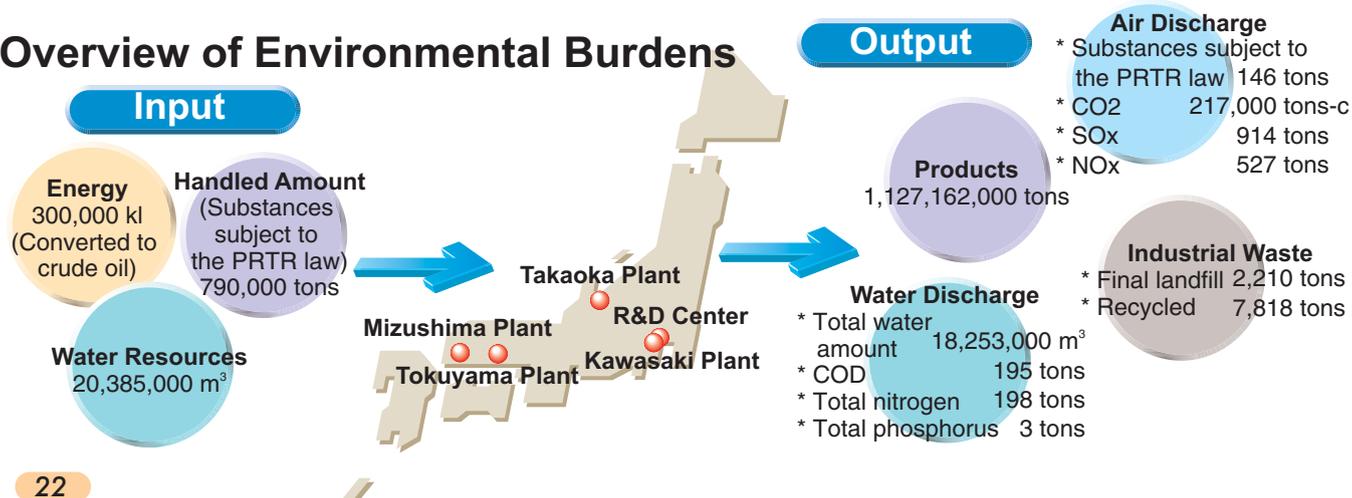
### Overview of 2005 Plan and Results

	Item	2005 Plan	2005 Results	Self-evaluation
1	Eliminate environment and safety abnormalities	(1) Full implementation of plant safety evaluations	53 investigations performed	○
		(2) Enhance the safety 5Ss and expand to affiliates	The same 5S diagnosis was performed company-wide at 45 workplaces (1/year), and affiliate safety 5S diagnosis also performed	○
		(3) Training for raising awareness of accident prevention	Implemented at all 4 plants	○
		(4) Zero environment abnormalities, zero safety abnormalities	Zero environment abnormalities, 1 safety abnormality (Fiberglass FRP Duct caught fire)	△
2	Promote occupational health and safety	(1) Fully establish the "Occupational Health and Safety Management System" and eliminate dangers with risk assessment Risk assessment for on-site operations for each workplace implemented annually	Risk assessment for on-site operations for each workplace implemented annually 6 times (4 plants)	○
		(2) Zero accidents that result in work leave, zero serious accidents that do not result in work leave	1 accident that resulted in work leave (bone fractured after falling from a platform), zero serious accidents that did not result in work leave	△
3	Reduce environmental burdens	(1) Continue assessing PRTR substances	Assessed the discharge amount of 42 target substances, total discharge amount of 65.9 t (55% reduction from previous year)	○
		(2) Implement a voluntary management plan for air-polluting toxic substances Reduce the butadiene air discharge from the 2004 level of 49 t to 10 t Reduce the acrylonitrile air discharge from the 2004 level of 39 t to 7 t	Butadiene: 25 t (49% reduction from previous year)  Acrylonitrile: 25 t (36% reduction from previous year)	△
		(3) Implement a zero emissions plan for industrial waste Reduce final landfill amount from the 2004 level of 2,834 t to 1,987 t	Final landfill amount: 2,139 t (25% reduction from previous year)	△
		(4) Strengthen the company-wide energy conservation project Implement energy conservation diagnosis Reduce specific energy consumption to 90.7% of the 1990 level Diagnosis implemented at the 4 plants and at 3 affiliate branches	Diagnosis implemented at the 4 plants and at 3 affiliate plants  Specific energy consumption reduced to 91.5% of the 1990 level	○  △
4	Promote chemical safety and product safety	(1) Implement product safety reviews for new products and new applications	8 reviews required, 8 completed	○
		(2) Provide customers with environment and safety information (MSDS)	Issued MSDS for all products and implemented corrections to comply with JIS (implementation rate: 100%)	○
		(3) Report new substances (laws related to chemical substance investigation and production regulations, Occupational Health and Safety Law)	Performed correctly	○
		(4) Zero serious PL abnormalities, zero law violations	Zero serious PL abnormalities, zero law violations	○
5	Promote distribution safety	(1) Full operation of the yellow card	Training performed through the logistics council	○
		(2) Reduce environmental burdens	Simplification of package shapes and containers and increasing the efficiency of liquid product transport are currently being implemented	○
		(3) Zero distribution accidents	Zero distribution accidents	○

○: Target achieved △: Target not achieved ×: Worse than 2004

Targets of the study: The ZEON Corporation, the four plants, the R&D Center and Okayama Butadiene Co., Ltd., for items 1 to 5  
Optes Inc., Takaoka Plant and ZEON Medical Inc., Takaoka Plant are also included for the energy data in item 3

### Overview of Environmental Burdens



# Safety and Accident Prevention

The foundation of any manufacturer is its production plants. Our management and plants work together every day to achieve their shared mission of “Creating a safe and stable workplace”. We have also created a “Company-wide Compliance Activity Master Plan”, with the President taking the lead in promoting it.

## Dialogue between Management and Plants

The management has always regularly visited the plants to engage in dialogue with the people working there. The year before last, we created a better mechanism for the management to talk directly with the plant employees, and now they are continually engaged in dialogue to come up with ideas for creating a better workplace that is even safer and more stable. The President spent a total of 50 days at the four plants in 2004 and 56 days in 2005. Last year the benefits of these discussions become evident, when the dialogue became even more energetic



Management Meeting at the Takaoka Plant

## The President Takes the Lead in Promoting Safety Management

Recognizing that safety takes priority over all other management issues, the President is at the forefront of efforts to establish the best possible safety management system across the whole company.

### 1. Introduction of an equipment information management system to prevent omissions

We have started to fully utilize the new system that we introduced in 2004.

We are effectively using all the functions such as the ledger, inspection plan, inspection history and inspection omission detection.

### 2. Plant deterioration countermeasures and foolproof measures (“Good judgments save money”)

The essential elements for a safe and stable workplace are “people”, “equipment” and “money”. We formulate systematic countermeasures on a scientific basis, such as residual life predictions for equipment.

### 3. Review of past accidents and recurrence prevention (“Never rely on ‘maybe’ or ‘should’”)

To eliminate safety abnormalities and prevent worker accidents, we use modern technology to review past accidents, determine whether current

countermeasures are effective and consider whether technology is available to provide even better recurrence prevention.

### 4. Review of standards (“Observe all standards, change the standards that cannot be observed”)

We constantly try to improve our standards by making them easier to observe and easier to understand. We eliminate unnecessary standards, simplify the contents of others, and make full use of pictures and diagrams to make the standards easier to use.

## Plant Safety Evaluation, Danger Source Identification and Evaluation

When we establish a new line at a plant, we evaluate the plant’s safety in five stages from the basic design to the start of production. We performed this 53 times in 2005. In line with the revision in the high-pressure gas safety law, we identified the potential sources of danger in the plant and develop counter measures to minimize their effects on safety.

## All-ZEON Safety Conference

Every year we hold an All-ZEON Safety Conference as a part of our effort to create a climate of safety at our company. Staff make presentations on the action they took to prevent accidents and workplace injuries and prizes are awarded to personnel who showed dedication in their safety activities. This year, we invited an outside lecturer to give us a presentation on accidents, problems and human error, in order to gain a more scientific insight into our case studies.



All-ZEON Safety Conference



President's Address

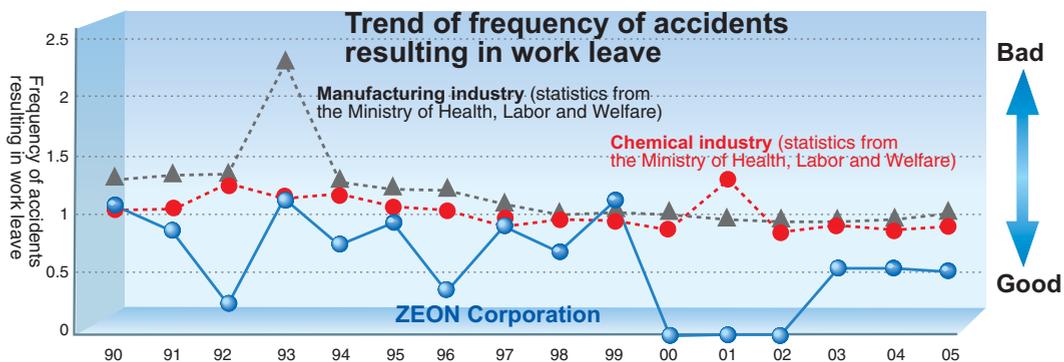
# Occupational Health and Safety

We are fully committed to performing activities to improve employee health and prevent workplace injuries.

## Occupational Health and Safety

It is our objective to create a safe and stable production system that improves the skills of the workplace. In order to establish an organization that strictly observes all rules, we carry out various

activities including workplace injury elimination campaigns, section chief & foreman training, new managerial staff training, workplace injury prevention training and affiliate safety training.



## Safety 5S Diagnosis

Based on our safety philosophy of “Safety will be achieved by performing the 5Ss and when everyone takes responsibility for their own actions”, we perform the “Safety 5S Diagnosis” (Sort(Seiri)), Set in order(Seiton), Shine(Seiso), Standardize(Seiketsu), Sustain(Shitsuke) at our branches, affiliates and partner companies.

In 2005 visits were made to five ZEON sites and eleven sites of our nine affiliates. Emphasis was given not only to pointing out defects, but also to suggest alternative methods of doing things. Awards were given for each department at the All-ZEON Safety Conference in recognition of outstanding practices.



Safety 5S Diagnosis at an Affiliate

walks to try to raise awareness of health and fitness issues.

## Health Management

Everyone wants to work healthily in a comfortable workplace. As employees get older there is an increase in lifestyle-related diseases and abnormalities found in their annual health checkups. With the aim of helping to ensure healthy minds and bodies, we provide a wide range of health checks, including the regular health checkup prescribed by law, special health checkups,

bowel cancer tests, eye examinations, gastric examinations, gynecological tests, tumor marker tests and family check-ups. We also provide eating habit advice, health seminars and health



Health and Fitness Awareness Meeting

## Mental Health

To help ensure mental health at the workplace, we have a “Self-care” program that employees perform themselves and a “Line care” program that is performed by managers and supervisors. In 2005 we held a training conference for all company employees based on the theme of “How to deal better with stress.” Further, to improve workplace healthcare at each plant, we hired mental health experts to work at each plant to enable more relevant care to be given.



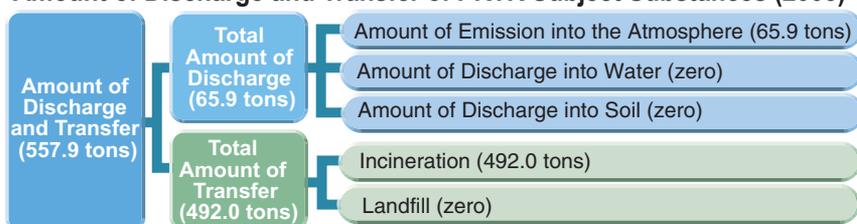
Mental Health Education

# PRTR Activity

The entire company is making efforts to reduce the amount of PRTR subject substance discharge and transfer.

## Amount of Discharge and Transfer of PRTR Subject Substances (2005)

The PRTR (Pollutant Release and Transfer Register) Law applies to 42 substances used throughout ZEON. We have identified the material balance of all applicable substances regarding their discharge and transfer. The total discharge has been reduced from 146.2 tons in 2004 to 65.9 tons in 2005, which is 45% of the previous year. In addition,



we have created a mid- to long-term plan, and are

making efforts to reduce the amount of discharges and transfers.

## Discharge and Transfer Data of Substances Restricted by Law

Government adherence control number	Substance name	Amount used (tons)	Emission into the Atmosphere (tons)	Discharge into Water (tons)	Total amount of discharge (tons)	Amount of transfer (incineration, tons)
2	Acrylamide	96.1	0.1	0.0	0.1	0.0
3	Acrylic acid	168.5	0.0	0.0	0.0	0.0
4	Ethyl acrylate	2,666.0	3.3	0.0	3.3	0.0
6	Methyl acrylate	31.7	0.1	0.0	0.1	0.0
7	Acrylonitrile	25,547.5	25.2	0.0	25.2	0.0
12	Acetonitrile	1,078.6	0.0	0.0	0.0	0.0
22	Allyl alcohol	46.2	0.0	0.0	0.0	0.0
23	1-allyloxy-2, 3-epoxy-propane	88.1	1.4	0.0	1.4	0.0
24	Linear alkylbenzenesulfonate and salt thereof	981.8	0.0	0.0	0.0	0.0
28	Isoprene	161,139.6	0.6	0.0	0.6	0.0
30	Bisphenol A type epoxy resin	9.7	0.0	0.0	0.0	0.0
42	Ethylene oxide	999.3	0.0	0.0	0.0	0.0
46	Ethylene diamine	2.6	0.0	0.0	0.0	0.0
47	Ethylenediamine tetraacetic acid	68.0	0.0	0.0	0.0	0.0
54	Epichlorohydrin	1,078.6	0.0	0.0	0.0	0.2
56	Propylene oxide	16.4	0.0	0.0	0.0	0.0
63	Xylene	1,567.6	0.1	0.0	0.1	3.5
77	Vinyl chloride	656.0	1.3	0.0	1.3	0.0
102	Vinyl acetate	332.6	0.1	0.0	0.1	0.0
159	Diphenylamine	5.6	0.0	0.0	0.0	0.0
172	N, N - dimethylformamide	209.5	0.0	0.0	0.0	0.4
177	Styrene	46,850.8	3.3	0.0	3.3	45.5
179	Dioxines*(units in mg)	5.7	5.7	0.1	5.8	0.0
202	Tetrahydro-methyl phthalic anhydride	2,435.2	0.0	0.0	0.0	243.5
227	Toluene	4,099.7	2.6	0.0	2.6	108.7
231	Nickel	38.8	0.1	0.0	0.1	33.1
232	Nickel compound	57.1	0.0	0.0	0.0	57.1
256	2-vinylpyridine	235.3	0.0	0.0	0.0	0.0
266	Phenol	127.1	0.0	0.0	0.0	0.0
268	1,3-butadiene	530,213.0	25.1	0.0	25.1	0.0
272	Bis phthalate (2-ethylhexyl)	229.4	0.0	0.0	0.0	0.0
299	Benzene	3,761.0	0.0	0.0	0.0	0.0
304	Boron and compounds	1.3	0.0	0.0	0.0	0.0
307	Poly-(oxyethylene) alkylether	61.5	0.0	0.0	0.0	0.0
309	Poly-(oxyethylene) nonylphenyl ether	9.0	0.0	0.0	0.0	0.0
310	Formaldehyde	2.5	0.0	0.0	0.0	0.0
313	Maleic anhydride	1,777.6	0.6	0.0	0.6	0.0
314	Methacrylic acid	1,956.2	0.1	0.0	0.1	0.0
316	Methacrylic acid 2, 3-epoxy propyl	12.9	0.0	0.0	0.0	0.0
319	Methacrylic acid n-butyl	3.4	0.0	0.0	0.0	0.0
320	Methyl methacrylate	1,845.6	1.8	0.0	1.8	0.0
321	Methacrylonitrile	6.7	0.0	0.0	0.0	0.0
	<b>Total</b>	<b>790,513.9</b>	<b>65.9</b>	<b>0.0</b>	<b>65.9</b>	<b>492.0</b>

\* Units of dioxins are mg-TEQ

Note: The PRTR Law specifies the amount in units of "kg" with fractions to 2 significant digits, but the table above shows in units of "tons".

# Hazardous Chemical Substance and Industrial Waste

## Reduction of Hazardous Chemical Substance Emissions into the Atmosphere

We are promoting a reduction in the amount of butadiene, and acrylonitrile emissions actively.

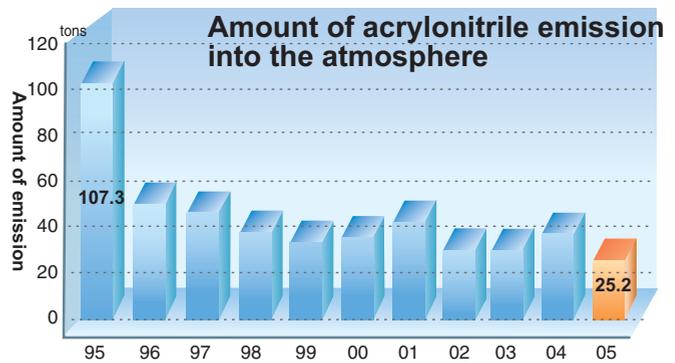
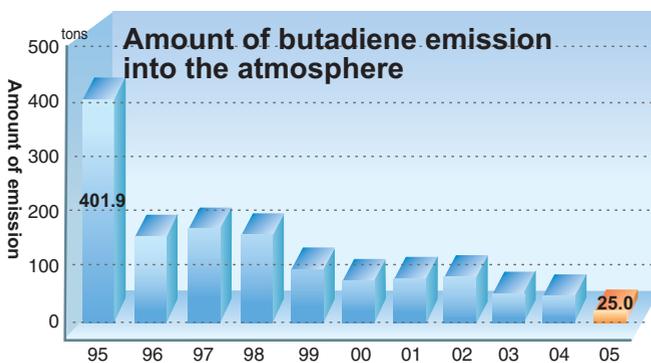
Efforts are being made headed by the Chemical Industry Association of Japan to recognize and reduce the amount of emission into the atmosphere for the 12 substances that are a top-priority challenge. ZEON has been making efforts to actively reduce the amount of emission with an emphasis on three related substances.

Through establishing technology and process improvements we completely eliminated the use of benzene in 2000 and consequently have achieved zero atmospheric emission.

Through complete combustion in the Tokuyama Plant boiler, butadiene emissions have been reduced from 20 tons in 2004 to 16.5 tons in 2005.

In addition, through the exhaust combustion facilities introduced in the Kawasaki Plant in 2004 and 2005, significant reductions are forecast after 2006.

We have reduced acrylonitrile emissions by operating an additional monomer recovery system and are planning to expand the recovery process in the near future.



## Reduction of Industrial Waste

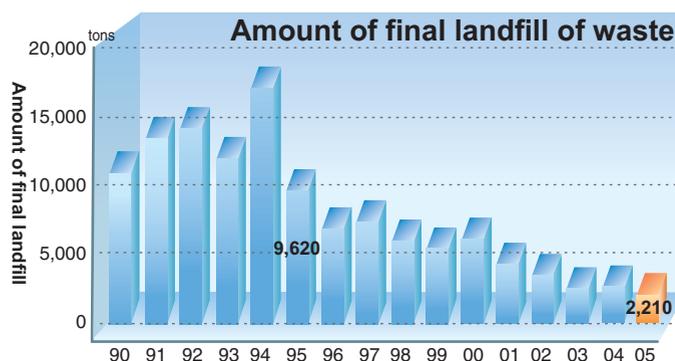
We are making efforts to reduce the amount of industrial waste generated in each stage of the production process, and the effects of reduction can be clearly observed.

The amount of industrial waste for external final landfill disposal reduced by approximately 624 tons in 2005 over the previous year.

In particular, the Mizushima plant has successfully reduced a significant amount of incinerated ash utilizing a high temperature incinerator jointly installed with the plants in the industrial complex.

We are working on the mid- and long-term goal for the amount of industrial waste for final landfill, which is reaching the zero emission defined as 10% of the emission amount in 1995. The goal is expected to be achieved by the year 2010.

Currently, examination of active sludge volume reduction and examination of effective sludge utilization and incineration are continuing while the sorting, recycling, and effective utilization of industrial waste are actively being promoted.



# Air and Water Quality

## Reduction of the Burden on the Environment: Air and Water Quality

We are continuing our efforts to reduce the burden on the environment, and when installing a new plant or expanding a plant, we try our best to prevent increasing the burden through technological improvements. We will continue to make additional efforts in the future.

With regard to the environmental atmosphere protection, although NOx emission has been improved by the changeover of the Tokuyama Plant boiler to a low-nitrogen oxide burner in 2003, now the emission is increasing due to air ratio issues.

Currently improvements in SOx emission is not moving forward, the amount increased in 2005 from the previous year. The amount is being influenced by an increase in production output and operating conditions.

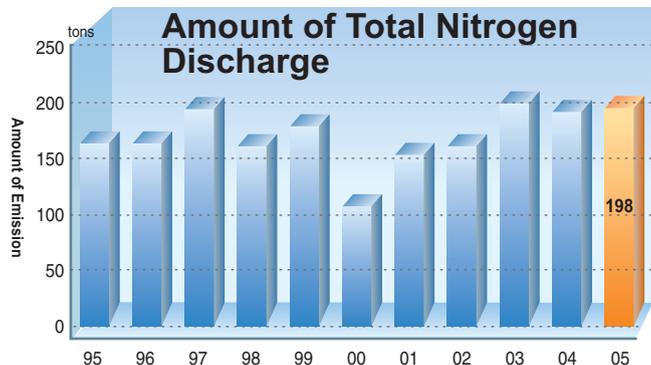
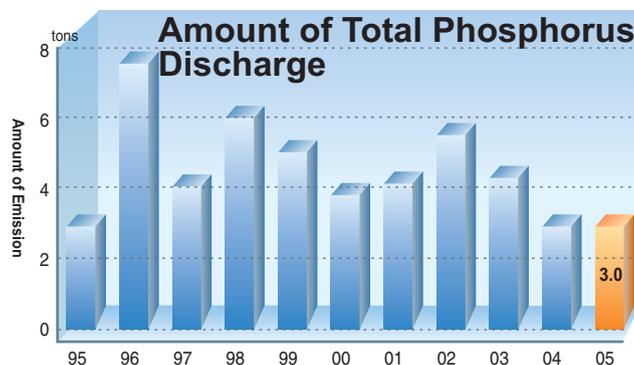
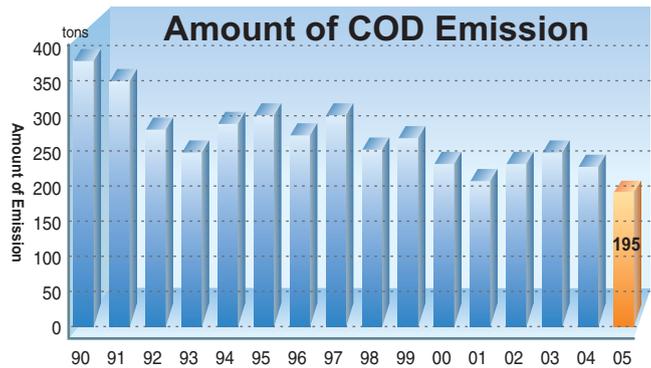
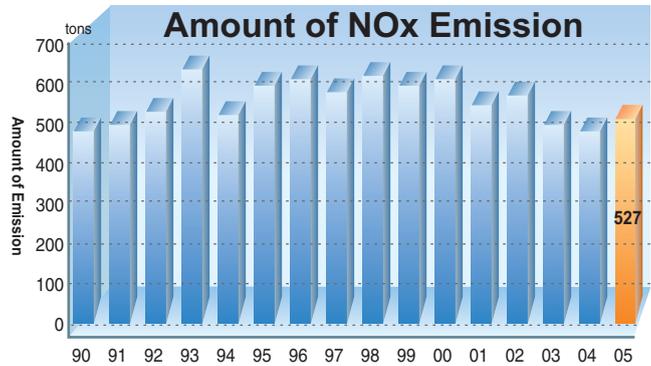
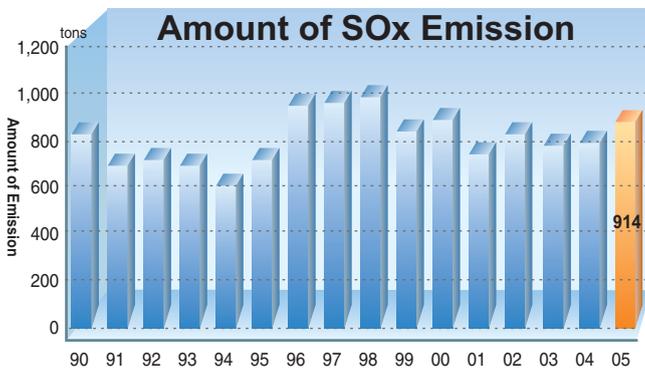
For further improvements in NOx and SOx emissions, it is necessary to improve the control of the operating conditions.

COD (Chemical Oxygen Demand), which is a

representative indicator of waste water quality, has been improved in our plants through the efforts such as upgrading the facilities for separating organic materials and others in the Tokuyama plant.

We are also planning to enhance the wastewater treatment equipment of the Kawasaki plant in 2006 for more reduction of total nitrogen emission in response to the Fifth Total Emission Restriction regulation, which is now under discussion in the Japanese Government.

In addition, wastewater quality continues to meet the requirements of the relevant laws and agreements with local governments.



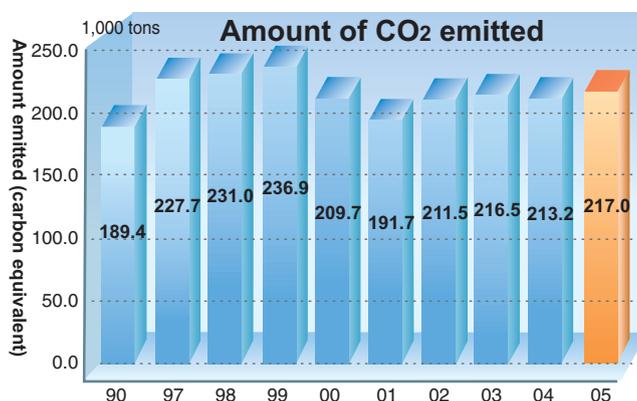
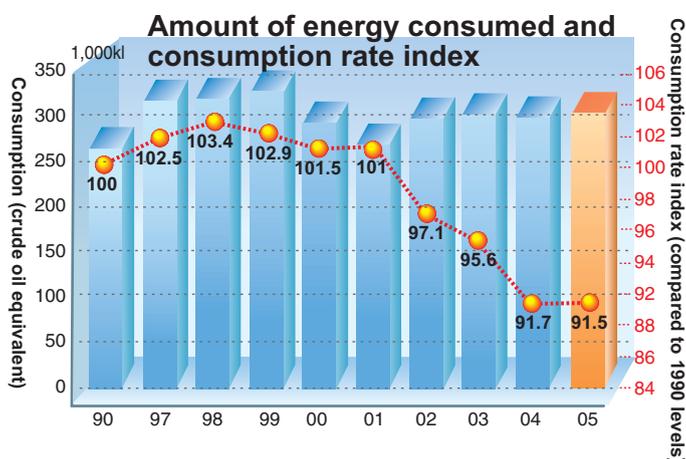
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# Resource and Energy Saving

In order to achieve the goal of "Reducing the energy consumption rate to 90% of the 1990 level by 2010" set by the Japan Chemical Industry Association, we have strengthened our company-wide projects and continue the challenges driven by our unique technology.

As a concrete example of the efforts in 2005, the cogeneration power facility in the Kawasaki plant was modernized to improve its power generation efficiency. In the Tokuyama plant, the exhaust heat recovery facility was improved. As a result, the energy consumption rate index

(compared to 1990) has been improved to 91.5% through those energy saving activities, approaching the 2010 goal of 90%. The effort continues in 2006, with planned modifications and expected efficiency improvements in the monomer extraction distillation process.



## Energy Conservation Diagnosis at ZEON Corporation and Affiliates

In 2005, experienced production technology managers at the ZEON Corporation focused on performing energy conservation diagnoses. Diagnoses were performed at the ZEON Corporation's four plants and R&D Center (research unit) and at affiliates. The purpose of the diagnosis was to identify the major themes, detect secondary themes through

everyday management checks, and strengthen the energy management system. At the worksite, the relevant staff were interviewed and an on-site inspection was performed to check each control item for energy conservation. In this way, the problems were identified and issues were clarified to enable the appropriate action to be taken.



Energy Conservation Diagnosis at an Affiliate

# Environment and Safety for Logistics

Our company's logistics department promotes safety and works on reducing environmental burdens.

## Logistics Safety

ZEON has instituted the "Yellow Card Management Rules" when transporting products that are toxic or dangerous. The driver must carry a yellow card when the product is shipped. The drivers are trained periodically in how to understand and observe the rules.

Further, training is performed at each plant in how to properly handle the products, to help prevent logistics accidents.



Yellow Card

## Environmental Countermeasure for Logistics

Using metal containers to pack synthetic rubber products

We had previously used wooden boxes to pack



Domestic Wooden Box Pallet



Domestic Metal Box Pallet

### Reducing the weight and increasing the durability of metal box pallets for export

After completing the transition to metal box pallets for export, we modified their specifications and reduced the weight of the packaging by 10%. We increased the strength at the same time, which dramatically improved the durability.

We extended our collection and reuse system globally, to Europe, North America and Asia.

### Using plastic for export pallets

We had previously used wooden pallets when exporting products such as petroleum resin, but to help protect the world's forests we decided to change to plastic pallets. We also instituted overseas collection and reuse, working to ensure the most effective use possible of natural resources.

synthetic rubber, but to help protect the world's forests we decided to change to metal box pallets. The change has already been completed for export containers, and in 2005 we started on the conversion process for domestic containers.

### Promotion of "Modal Shift"

We are in the process of changing domestic transportation from our main synthetic rubber plant, the Tokuyama Plant, from trucks to railway containers.

In recognition of our efforts to reduce carbon dioxide emissions and conserve energy, for three successive years from 2003 to 2005, we were presented with the "Modal Shift: Excellence in Transportation" award from the Chugoku District Transport Bureau of the Ministry of Land, Infrastructure and Transport, Japan. We will continue in the future to do our very best to conserve energy.



2005 Modal Shift Award

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# Audits

We perform a variety of audits to check the implementation status of our policies, such as our Responsible Care activities.

## ZEON and Affiliate Audits

### Plant Responsible Care Audit

Every year, an audit team led by the director in charge of the environment and safety visits ZEON's plants to perform a Responsible Care audit.

The progress of improvements is checked in the audit using the "Specified Improvement Plan and Implementation Report".



Plant Responsible Care Audit



On-site Audit Inspection

### Plant Technology Audit

A plant technology auditor is appointed to audit the plant equipment for safety and stability during operation at the four ZEON plants and the ZEON Chemicals Yonezawa Co., Ltd. plant at least once a year.

### Affiliate Safety Inspection

A team led by the head of the Safety Environmental Affairs Department performs a diagnosis of the implementation status of Responsible Care activities at affiliates and offers guidance at least once a year.

### PL Audits

An audit focused on PL (product liability) and chemical safety is performed once a year at ZEON's center, plants and affiliates, by an audit team led by the head of ZEON's Quality Assurance Department.

### Other Audits and Inspections

The head of the Safety Environmental Affairs Department performs special audits as required. The central workplace doctor also inspects the plants about once a year to check the working environment and health management.

## Internal Plant Audits

### Diagnosis by the Plant Manager

All the plant managers perform a diagnosis of the implementation status of Responsible Care at their own plant at least once a year.

### Internal EMS Audit

A regular audit is performed to check the EMS (Environment Management System) implementation status, in line with the ISO14001 manual. Both internal and external courses are provided at each plant to train employees to be internal auditors.

# Environment and Safety Training

We are fully committed to safety management, with training carried out at head office and special training exercises performed at each plant.

## Training at the Head Office

### Manager and Supervisor Training

The Human Resource Department and Safety Environmental Affairs Department jointly host for two days at the head office “Production Section Head and Equipment Management Section Head Central Training” and “Foreman and Equipment Management Group Leader Central Training” for the plants. These courses form a core element of safety management. Since 2004, the participants have been trained by the supervisor of the equipment management section and the contents have been set through the agreement of both the production and equipment departments.

The contents of the training is as follows: basic training about equipment management and the roles of the manager and supervisor, repeat compliance training, training about laws related to high-pressure gas, and training to raise awareness levels by discussing in groups case



Production Group Head Office Training

studies of accidents and workplace injuries at ZEON.

In addition, since 2004 manager environment and safety training has been performed when a new person has been appointed as production section head or environment and safety section head.

### Safety Training by Retired Employees

We decided to test a new system where retired workers with a lot of knowledge and experience would provide safety training for our employees. We asked a retired worker who used to be a plant manager to be a lecturer and participate in our safety training for all the plant employees. In 2005 he gave a lecture focused on case studies of errors at ZEON and other companies, searching for the accident causes from a variety of angles. His lecture was very well received by the audience and we plan to continue with this training in the future.



Accident Case Study Training by Experienced former Plant Manager

## Environment and Safety Training and Exercises at the Plants

We perform “Abnormality Anticipation Drills”, “Emergency Training”, “Comprehensive Fire Drills” and “Report Training” in line with an annual plan. We are also involved in everyday activities to improve safety, such as contests that encourage the wearing of protective gear or safe forklift driving. In 2005 we fully extended to the plants the practical learning system that we had launched in 2004, and we are continuously training employees using simulations to raise their awareness of safety. Specifically, we performed an explosion experiment and a simulation of being caught up in a roll mill.



Practical Learning at the Kawasaki Plant

# Environmental Policy from an Economic Perspective

## Environmental Accounting

Since 2002, ZEON has publicly released its environmental protection costs and environmental protection effects (physical effects and economic effects), in line with the guidelines issued by the Ministry of the Environment. This environmental accounting report has been created based on the main items in the Ministry of the Environment's "Environmental Accounting Guidebook 2002" and the "Procedures for Environmental Protection Cost Classification" (April 2003).

### Environmental Protection Costs

#### Capital Investment for Environmental Protection

The main investment in 2005 for pollution prevention was the enhancement of the recovery column at the Kawasaki Plant to reduce acrylonitrile monomers.

The Takaoka Plant invested in modifications to the solvent recovery equipment, which reduced the amount of solvent emissions by 40%.

At the Tokuyama Plant, investments were made in enhancing styrene recovery, leading to reductions in the amount used.

The investments of 2005 will continue to have an effect in 2006, so we expect to see further reductions.

The Kawasaki Plant budgeted for an upgrade to its waste incinerator, which was performed in 2006 and contributed to reducing environmental odors.

As a wastewater countermeasure, the Tokuyama Plant installed a scum de-watering press which increased the efficiency of separation, reducing the sludge load and also worked on COD reduction.

In terms of energy, the Kawasaki Plant invested in upgrading its cogeneration system, which reduced the amount of energy used by improving the efficiency of electricity generation.

The Mizushima Plant modified the trays in the

monomer extraction distillation column to reduce the steam required, which in turn reduced the amount of energy consumed.

#### Environmental Protection Costs

We are developing technology for minimizing wastewater, and reducing the volatile substances that remain in products. We are particularly focused on reducing butadiene and acrylonitrile, which are toxic air pollutants, and on developing technology, designing equipment and establishing operating conditions for reducing substances that place a load on wastewater, such as total nitrogen and COD.

Since 2003, we have not recorded in the accounts the investments or costs for developing products that contribute to environment protection, but by 2005 these research and development costs had greatly increased to more than 1 billion yen.

Management costs related to the environment also increased, as we revised our legal handbook and reviewed the Responsible Care Report, deciding to issue an English version to provide our overseas customers with information. Further, related costs increased as affiliates concentrated on maintenance and improvement activities to renew or construct their own environment management systems.

### 2005 Environment Accounting Sheet

Environment Protection Costs (Million Yen)		ZEON Corporation Only		Including Affiliates	
Classification		Investment Amount	Cost Amount	Investment Amount	Cost Amount
(1) Costs within the business area		2,051.2	2,645.3	2,088.9	2,741.1
Breakdown	(1) Pollution prevention costs	771.2	1,785.0	808.4	1,816.1
	(2) Global environment protection costs	365.3	200.4	365.8	202.4
	(3) Resource recycling costs	914.7	659.9	914.7	722.6
(2) Upstream and downstream costs		82.7	84.2	82.7	84.2
(3) Management activity costs		21.0	367.5	21.4	378.3
(4) Research and development costs		949.5	1,058.9	949.5	1,060.9
(5) Social activity costs		0.0	27.6	0.0	28.5
(6) Environmental damage handling costs		0.0	109.9	0.0	109.9
Total		3,104.4	4,293.4	3,142.5	4,402.9

Amount (Million Yen)

Item	ZEON Corporation Only	Including Affiliates
Total investment amount within applicable period	18,084	19,069
Total research and development costs within applicable period	8,444	8,480

#### Accounting Range

ZEON Corporation Only:  
 ZEON Corporation Head Office, R&D Center, Takaoka Plant, Kawasaki Plant, Tokuyama Plant, Mizushima Plant  
 Affiliates:  
 Kawagoe Plant and Otsu Plant, ZEON Polymix Co., Ltd.; Sano Plant, Optes Inc.; Ibaraki Plant, ZEON Kasei Co., Ltd.; Mizushima Plant, Okayama Butadiene Co., Ltd.; ZEON Chemicals Yonezawa Co., Ltd.; Yamaguchi Plant and Shunan Plant, ZEON Logistical Materials Co., Ltd.; Mizushima Plant, RIMTEC Corp.; Takaoka Plant, ZEON Medical Inc.  
 Period Covered  
 April 1, 2005 to March 31, 2006

## Effects of Environmental Preservation

### Physical Effects

With regard to the environmental atmosphere protection, although NOx emission has been improved by the changeover of the Tokuyama Plant boiler to a low-nitrogen oxide burner in 2003, the emission is currently increasing.

Currently improvements in SOx emission is not moving forward, the amount increased in 2005 from the previous year. The amount is being influenced by an increase in production output and operating conditions.

For further improvements in NOx and SOx emissions, it is necessary to improve the control of the operating conditions.

As for the water quality, the COD (chemical oxygen demand) has been improved through the upgraded of

wastewater equipment at the Tokuyama plant.

In addition, CO<sup>2</sup> emissions has kept the same level through the achievement of energy reduction activities in spite of increased emission and production. The improvement on consumption rate is not significant, but continues.

There is a decreasing trend in the amount of waste disposed in landfills since the high-temperature incinerator co-funded by the industrial complex of the Mizushima plant has started the full-fledged operations. The resulting reduction in industrial waste from increased separation and sludge volume reduction from generation restraints can be seen.

Reductions in the amount of PRTR applicable substance emissions are also continuing through increased efforts in styrene recovery, reducing the amount of PRTR applicable substance emissions by approximately 55% compared to the previous year.

Effects of Environmental Preservation	ZEON	Comparison index	Including affiliated companies	Comparison index
Description of effects	Environmental burden goal	Compared to previous year	Environmental burden goal	Compared to previous year
Environmental preservation effect produced inside plants (Effect inside plant)				
SOx emission	914tons	112tons	915tons	113tons
NOx emission	527tons	39tons	528tons	40tons
Soot emission	28tons	1tons	28tons	1tons
COD emission	195tons	▲ 40tons	195tons	▲ 40tons
CO <sup>2</sup> emission (amount of carbon)	217,030tons	3,838tons	219,917tons	4,051tons
Amount of final landfill of industrial waste	2,210tons	▲ 626tons	3,273tons	▲ 336tons
Total emission of PRTR applicable substances	66tons	▲ 80tons	83tons	▲ 85tons

### Accounting Range

ZEON Corporation Only:  
ZEON Corporation Head Office, R&D Center, Takaoka Plant, Kawasaki Plant, Tokuyama Plant, Mizushima Plant

#### Affiliates:

Kawagoe Plant and Otsu Plant, ZEON Polymix Co., Ltd.; Sano Plant, Optes Inc.; Ibaraki Plant, ZEON Kasei Co., Ltd.; Mizushima Plant, Okayama Butadiene Co., Ltd.; ZEON Chemicals Yonezawa Co., Ltd.; Yamaguchi Plant and Shunan Plant, ZEON Logistical Materials Co., Ltd.; Mizushima Plant, RIMTEC Corp.; Takaoka Plant, ZEON Medical Inc.

#### Period Covered

April 1, 2005 to March 31, 2006

### Economic Effects

The economic effects shown here include only those for which an actual monetary amount can be recognized. We do not include any risk avoidance effects or supposed effects that are calculated by estimating incidental losses and damage costs that may result if environmental preservation costs are not paid.

Industrial waste treatment costs are continuing to be reduced as a result of our efforts in reducing losses in the production process and waste oil and effective utilization of such resources for products. In addition, the results of our waste oil/waste solution efforts can

be seen.

Also, focusing on efforts in energy saving activities in the monomer extraction process, a reduction in steam consumption is continuing and the results are improving.

Cost reduction through catalyst recovery/reuse is continuing and a result of approximately 400 million yen can be seen.

Efforts are being made in our affiliated companies as well to improve the production productivity of processed rubber products. Reductions in fuel and electrical expenses are continuing through energy saving activities.

Economic effects associated with environmental preservation measures (million yen)	ZEON	Including affiliated companies
Description of effects		
Cost effect achieved through reclaiming and utilization as fuel	595.8	597.0
Cost reduction through energy saving	805.1	806.7
Reduction of industrial waste treatment cost	101.7	101.9
Cost reduction through reduction and recovery/reuse of solvent and catalyst	443.9	444.8
<b>Total</b>	<b>1,946.5</b>	<b>1,950.4</b>

### Accounting Range

ZEON Corporation Only:  
ZEON Corporation Head Office, R&D Center, Takaoka Plant, Kawasaki Plant, Tokuyama Plant, Mizushima Plant

#### Affiliates:

Kawagoe Plant and Otsu Plant, ZEON Polymix Co., Ltd.; Sano Plant, Optes Inc.; Ibaraki Plant, ZEON Kasei Co., Ltd.; Mizushima Plant, Okayama Butadiene Co., Ltd.; ZEON Chemicals Yonezawa Co., Ltd.; Yamaguchi Plant and Shunan Plant, ZEON Logistical Materials Co., Ltd.; Mizushima Plant, RIMTEC Corp.; Takaoka Plant, ZEON Medical Inc.

#### Period Covered

April 1, 2005 to March 31, 2006

# Environment Policy from an Economics Perspective

## About Environment and Safety Investment

Not only is ZEON making the environmental investments related to pollution prevention equipment and resource and energy conservation equipment that are shown in the environmental accounting, but we are also continuing to make investments to improve safety and eliminate dangers. The main investments included enhancements to

important devices in the monitoring system for the early detection of abnormalities, upgrades to fire fighting vehicles, the establishment of a secure power source, and the prevention of leaks.

The total of these environment and safety investments is indicated in the graph below, which shows the trend in recent years of the total accumulated investments for the environment and safety.



Note that our affiliates also started environment accounting in 2003. Their investment amounts are shown in the chart below.

### Environment and Safety Investment Amount

2005 Investment Amount (100 Million Yen)	ZEON Corporation Only	Affiliates	Grand Total
<b>Environment-related</b>	31.04	0.38	31.42
<b>Safety-related</b>	7.52	0.56	8.08
<b>Total</b>	38.56	0.94	39.50

#### Accounting Range

**ZEON Corporation Only:**  
 ZEON Corporation Head Office, R&D Center, Takaoka Plant, Kawasaki Plant, Tokuyama Plant, Mizushima Plant  
**Affiliates:**  
 Kawagoe Plant and Otsu Plant, ZEON Polymix Co., Ltd.; Sano Plant, Optes Inc.; Ibaraki Plant, ZEON Kasei Co., Ltd.; Mizushima Plant, Okayama Butadiene Co., Ltd.; ZEON Chemicals Yonezawa Co., Ltd.; Yamaguchi Plant and Shunan Plant, ZEON Logistical Materials Co., Ltd.; Mizushima Plant, RIMTEC Corp.; Takaoka Plant, ZEON Medical Inc.  
**Period Covered**  
 April 1, 2005 to March 31, 2006

# Site Reports

The site report describe environment and safety activities at the R&D Center, four plants in Japan, nine affiliates and four overseas affiliates.

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## R&D Center

The R&D Center develops innovative product technology in order to modify and improve conventional product materials. In new fields, the creative skills of the R&D Center enable technology to be developed that delivers the required high-performance product materials for the electronics and IT industries. The staff take environment, safety and health issues into account from the initial stages of research. The Center is also committed to strengthening and restructuring their research units. They have built a new research facility with the purpose of generating new business, delivering better products and making a greater contribution to society.

### 2005 Environment and Safety Activity Policy

- (1) Establish safe and stable production technology with the aim of reducing problems
- (2) Restructure the research facilities so that safety is the top priority
- (3) Proceed steadily with research and development environment improvements
- (4) Enhance education and training, and pass on information about safety technology



### Environment and Safety Activities

The R&D Center concentrated on the following activities in line with the 2005 Environment and Safety Policy.

#### Safety Inspections for New Experiments

In order to ensure safety in the research and development stage and produce safe and stable production technology, the Center performed advance safety inspections for new experiments whenever new test equipment or work was introduced, or when a new chemical substance was being handled. Permission was given to start the experiment only after making sure there would be no negative effects on the environment, safety or health. The introduction of risk assessments in the safety investigations reduced the incidence of equipment problems and accident near-misses during new experiments.

#### Chemical Substance Handling Restrictions and Management

Safety management was performed for chemical substances by giving consideration to environment, safety and health issues. An authorization system was established where, from the initial stages of research, the permission of the Environment and Safety Unit was required whenever particularly poisonous, toxic or dangerous chemical substances were purchased, used or disposed.

### 2005 Topics

#### Opening of the New No. 10 Research Facility

With the support of grants from the Kanagawa prefectural government, the Center built a new research building (8 floors and a total floor area of 10,000 m<sup>2</sup>) to act as an R&D facility for generating the next generation of new businesses. Work started in April 2005 and was finished in May 2006.

Various mechanisms were added from the design stage in order to create an environmentally considerate facility: for example, safety disposal equipment was placed in the draft outlets of the experiment rooms, and integrated processing of drain water and central control of energy were established.



New Facility  
(No. 10 Building)

Founded: 1959  
 Address: 1-2-1 Yako, Kawasaki-ku, Kawasaki City,  
 Kanagawa Prefecture  
 210-8507Tel: 044-276-3721 Fax: 044-276-3720

General Manager, R&D Center  
 Tadao Natsuume (Managing Director)



### Reduction of Industrial Waste

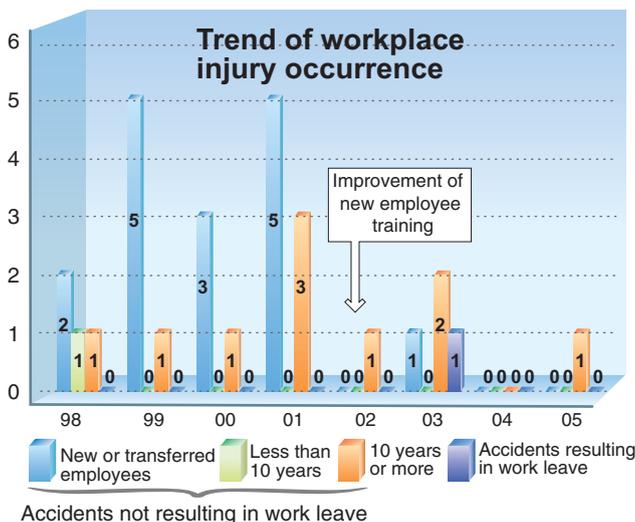
To reduce industrial waste, the R&D Center has fully implemented separate collection for its waste and is promoting the recycling of disposed plastic (which result in high emissions). Further, they have hired external contractors to perform heat recovery processes and are working to reduce the amount of industrial waste disposed in landfills. The Center performs inspections every year to make sure that the externally contracted work is being processed correctly.

### Environment and Safety Training and Chemical Safety Training

Thorough training programs are held at the Environment and Safety Unit and each workplace whenever required after changes in personnel or research procedures. The improvement in the training of new and transferred personnel since 2002 has been particularly successful in reducing workplace injuries.



New Employee Training (Firefighters Training Employees in Handling Dangerous Substances)



### Environment and Safety Training

- (1) New employee training (for all employees who joined the company in 2005)  
 Safety knowledge and practical skill training once every month (total of 10 times)
- (2) Training of instructors for new employees (for the instructors of new and transferred employees)
- (3) New employee training based on the training plan (at each workplace, for new employees)
- (4) Safety training by organizational layer (for newly promoted employees and research leaders)
- (5) Safe and stable production technology training performed by the head of the Environment and Safety Section at the plant (for all employees)
- (6) Training for temporary staff (for temporary staff and instructors)
- (7) Safety training based on the Workplace Injury Elimination Campaign (for all employees)
- (8) Safety skill practical training taught by external organizations (for middle-ranking employees)

### Chemical Safety Training

- (1) Chemical substance safety training (for newly promoted employees and research leaders)
- (2) Chemical substance regulations and safety management (for all employees)
- (3) Chemical inspection regulations and training related to PL law (for all employees)



"The Horror of Fire and Explosions!": a Practical Training Course by an External Organization

# Takaoka Plant

The Takaoka Plant was established in 1956 as a plant for PVC production. The plant has commemorated its 50th anniversary, thanks to the friendly support of our neighboring residents' association as well as the local government agencies.

It began the production of a specialty synthetic rubber called hydrogenated nitrile rubber in 1983. After that, it began its foray into new areas and is currently making huge advancements in the areas of medical products and fabrication of cycloolefin polymer, an environmentally friendly next generation fluorine solvent, and expanding into optical component applications. A research department was formed as well to assist the full-scale research activities on those new areas. The plant is continuing the transformation into an up-and-coming future-oriented plant.

## Environment and Safety Activities

### (1) Reducing the amount of harmful substance emission

We are making efforts to reduce the amount of emissions through closed process methods and improved recovery of un-reacted vinyl chloride monomer and organic solvents. We are expanding our facilities such as the recovery systems according to our strategic plan for further reduction of emissions.

### (2) Reducing industrial waste

The amount of waste sludge from wastewater treatment process, which is the majority of the plant's waste materials, has been reduced utilizing a new technology. Furthermore, we have created a technology for recycling some of waste as part of our increased efforts to reduce industrial waste.

### (3) Reducing the burden on the atmosphere and water quality

We have established the wastewater failure detection technology in order to increase the reliability of the harmful substances release prevention system. We are continuing our efforts in increased operations management of the wastewater processing facilities to ensure stable operations for tight pollution control.

## 2005 Topics

**Precision Optics Laboratory Construction Completed**  
The Precision Optics Laboratory was founded in 2004 to integrate research and production capabilities into a single system. In 2005, the Machining Research Annex was added to the Precision Optics Laboratory. It allows us to design and prototype molds to reduce the time from research to actual molding to a one-seventh of the time it used to take, establishing a system for delivering products to customers in a shorter time and contributing to the industrial world.



Completion ceremony

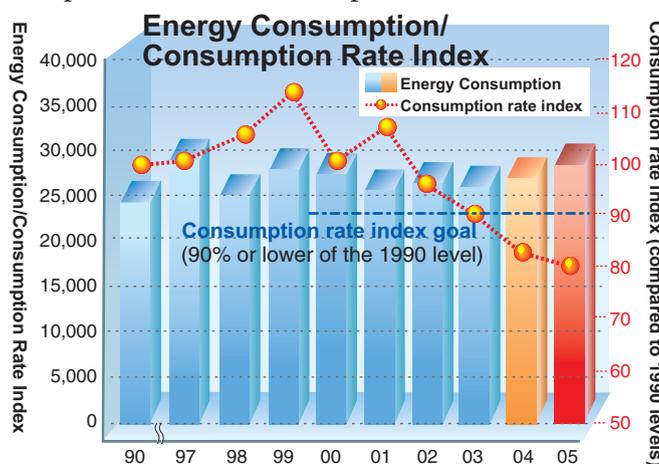


Precision Optics Laboratory Machining Research Annex completion ceremony



### (4) Resource and energy saving

In pursuing the 2010 goal "Reducing the energy consumption rate to 90% of the 1990 level by 2010," the reduction rate higher than the previous year has been achieved by improving the daily operation management through our energy saving awareness activities and adoption of seasonal factors with an emphasis on steam consumption.



Founded: 1956  
 Address: 630 Ogino, Takaoka City, Toyama Prefecture  
 933-8516  
 Tel: 0766-21-0252 Fax: 0766-21-4568

General Manager, Takaoka Plant  
 Seiichi Okada (Director)



## Living Together with the Local Community

### Local Responsible Care Dialogue

Local dialogue meetings were held to describe everyday Responsible Care activities, centered on the five companies in Toyama Prefecture who are members of the Japan Responsible Care Council. Many local organizations took part, including residents' associations, local government, schools, community groups and companies that are not members of the JRCC. They gained a greater understanding of our everyday activities at work.



Local Responsible Care Dialogue

### Building a Footpath Next to Plant Roads

The Takaoka Plant built footpaths next to the roads within its plant to enable employees and visitors to walk around safely.



Footpath Built within the Plant

### “Zero Trash” Campaign (Picking Up Trash Around the Plant)

On May 30 (“Zero Trash Day”) we collected trash and empty cans from the roads around the plant and pulled out weeds from the ground. The local residents’ association will join us in performing this activity from this year.



Zero Trash Campaign

\* Amount of carbon converted  
 \*\* In FY04, vinyl chloride monomer and PRTR applicable substance calculation methods changed  
 (1) Vinyl chloride monomer (consumption, emissions) includes that of the Shin Dai-ichi Vinyl Corporation (contracted manufacturing). ZEON amounts are in parentheses.  
 (2) PRTR applicable substances (consumption, emissions) exclude that of the Shin Dai-ichi Vinyl Corporation.

### Environmental Related Data from the Takaoka Plant

Year		99	00	01	02	03	04	05
Vinyl chloride monomer	Amount of consumption (tons)	47,000	44,000	45,200	41,600	40,300	37,421 (785)	33,084 (656)
	Amount of emission (tons)	68	88	53	40	40	32 ( 1)	27 ( 1)
PRTR applicable substances	Amount of consumption (tons)	49,247	46,146	47,145	42,338	42,575	1,439	1,312
	Amount of emission (tons)	106	127	96	83	85	4	4
Industrial waste	Amount of production (tons)	11,294	7,904	7,569	6,068	5,255	5,143	4,358
	Amount of final landfill (tons)	2,811	2,176	1,909	1,692	1,497	1,437	1,183
Emission into the Atmosphere	Amount of CO <sup>2</sup> emission (tons-C*)	18,388	17,811	16,772	17,494	16,856	17,760	17,567
	Amount of SO <sub>x</sub> emission (tons)	55	39	22	30	53	41	43
	Amount of NO <sub>x</sub> emission (tons)	56	59	47	56	70	69	57
Wastewater	Total effluent waste water discharge (thousand m <sup>3</sup> )	6,131	5,545	6,158	6,464	6,649	6,441	5,901
	Amount of COD emission (tons)	50	57	36	35	46	29	31
	Amount of total phosphorus discharge (tons)	3	2	2	4	3	1	1
	Amount of total nitrogen discharge (tons)	24	5	5	7	25	15	15
Energy	Total amount (crude oil equivalent, kl)	27,841	27,139	24,897	26,462	26,341	27,494	28,692
	Consumption rate index (1990 = 100)	114	101	106	98	90	83	80

# Kawasaki Plant

The Kawasaki Plant has a long and successful history. In 1959 it was the first factory in Japan to industrialize “acrylonitrile butadiene rubber”, which is a special synthetic rubber. For over 45 years it has been ZEON’s core plant for producing specialty products, including synthetic rubber materials for automobile hoses, belts and packing, and synthetic latex for adhesives, tire coatings and nonwoven fabric.

This plant is in the Greater Tokyo metropolitan area and so has had the opportunity to continuously perform Responsible Care activities. In particular, the plant has been active in using technological improvements to counteract emissions of toxic chemicals from manufacturing processes, and concrete results have been achieved. They are continuing to develop such technology with the objective of creating a plant that is as environmentally friendly as possible.

## Environment and Safety Activities

### (1) Reduction of Toxic Chemical Emissions

The full utilization of the catalytic combustor that was introduced in 2004 has reduced emissions of butadiene, the main raw material in synthetic rubber and synthetic latex, from 29 tons to 8.5 tons.

In 2006 we will further improve the closed process methods and study technology that should reduce the amount to 1 ton.

The full utilization of recovery equipment has also reduced the amount of acrylonitrile emissions from 38 tons to 24 tons. The plant plans to further reduce the amount through improvements in the recovery system and closed process methods.

### (2) Reduction of Industrial Waste

In terms of industrial waste, the Kawasaki Plant separates all its waste for collection and is working towards greater reuse of resources (recycling and heat recovery). Unfortunately, in 2005 the amount of waste disposed at external landfill sites increased due to the aging of the incinerator at the plant. The Plant aims to have introduced an incinerator based on a new system by the end of 2006.

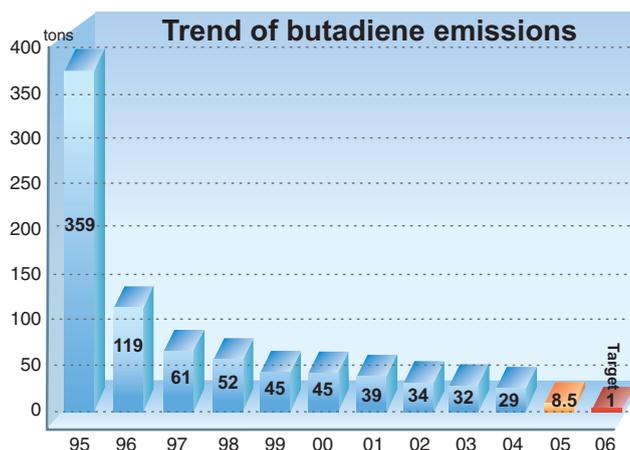
### (3) Reduction of Air and Water Environmental Burdens

The new incinerator mentioned in the item above was built as a countermeasure for reducing the environmental burden on the air.

In 2005, the Plant finished work to separate the rainwater from wastewater. This is expected to reduce the burden on wastewater treatment process. The Plant is also continuing to reduce total nitrogen from the discharge effluent water as a countermeasure for reducing the environmental burden on water.

### (4) Resource and Energy Conservation

In 2005 operations were made more efficient by introducing a new gas engine at the same time as the update in the cogeneration system. The plant continuously performs resource and energy conservation activities in order to proactively reduce specific energy consumption and CO<sub>2</sub> emissions. One example is the introduction of the highly efficient cogeneration system.



### (5) Others

In terms of safety and accident prevention, the Plant as a whole has returned to the basic principles of safety under a program known as “Creating a safe, friendly and energetic plant”. This program is based on the full implementation of a system of hand signals, greetings, delivering reports, making contact with superiors if issues arise, and holding consultations.

Further, in order to eliminate accidents that result from uncertainty, the Plant makes judgments based on its database and is continuously expanding activities that firmly establish the “3A principles” of making judgments based on the actual worksite, actual object and actual situation. These actions are raising employee safety awareness.

Practical learning simulations by external organizations have also been introduced in order to raise safety awareness and cultivate greater sensitivity towards potential dangers.



New Cogeneration System

Founded: 1959  
 Address: 1-2-1 Yako, Kawasaki-ku, Kawasaki City,  
 Kanagawa Prefecture 210-8507  
 Tel: 044-276-3700 Fax: 044-276-3720

General Manager, Kawasaki Plant  
 Makoto Yamamoto (Board Member)



## 2005 Topics

- (1) Cogeneration unit No. 1 was rebuilt & modernized
- (2) Catalytic combustor fully operational
- (3) Acrylonitrile recovery equipment fully operational



Simulated Practical Learning



Greetings Campaign

## Living Together with the Local Community

In preparation for accidents or natural disasters, the Plant carries out disaster drills twice every year in cooperation with the Disaster Preparation Organization.

Since the Plant wants to be firmly rooted in the local community, it is involved in local clean-up campaigns and picks up trash from the streets near to the plant.



Joint Drills with the Disaster Preparation Organization

### Environmental Related Data from the Kawasaki Plant

	Year	99	00	01	02	03	04	05
<b>Harmful substances</b>	Amount of butadiene consumption (tons)	31,509	30,649	29,058	27,335	29,876	30,726	29,694
	Amount of butadiene emission (tons)	45	45	39	34	32	29	8
	Amount of acrylonitrile consumption (tons)	10,886	10,837	11,257	10,937	12,336	12,953	12,345
	Amount of acrylonitrile emission (tons)	31	36	38	29	32	38	24
<b>PRTR applicable substances</b>	Amount of consumption (tons)	56,571	63,273	57,429	55,629	59,001	59,530	58,960
	Amount of emission (tons)	81	89	84	69	70	73	54
<b>Industrial waste</b>	Amount of production (tons)	64,976	52,115	48,606	70,261	63,759	44,758	37,158
	Amount of final landfill (tons)	168	60	50	230	24	238	520
<b>Emission into the Atmosphere</b>	Amount of CO <sup>2</sup> emission (tons-C*)	11,593	11,790	11,472	11,112	11,152	11,305	13,894
	Amount of SO <sub>x</sub> emission (tons)	1	1	2	1	0.6	3	1
	Amount of NO <sub>x</sub> emission (tons)	31	28	29	29	27	28	18
<b>Wastewater</b>	Total effluent discharge (1,000m <sup>3</sup> )	1,869	1,942	1,942	1,726	1,825	2,006	1,906
	Amount of COD emission (tons)	55	49	56	49	57	53	52
	Amount of total phosphorus discharge (tons)	0.3	0.2	0.4	0.6	0.6	0.8	0.9
	Amount of total nitrogen discharge (tons)	64	49	70	68	107	107	118
<b>Energy</b>	Total amount (crude oil equivalent, kl)	21,940	22,916	22,415	21,568	21,625	21,820	25,790
	Consumption rate index (1990 = 100)	115	106	109	114	103	103	100

\* Amount of carbon converted

\*\* Energy values include those of Research and Development Center

# Tokuyama Plant

The Tokuyama Plant started operations in 1965 and in 2005 celebrated 40 years of success. The Plant uses the “ZEON Process of Butadiene” (GPB), its original extraction distillation technology, to produce the butadiene raw material. It uses this to manufacture the synthetic rubber and synthetic latex that is then sold on the global market. Recently the Plant has also made plans to increase production of polymerized toner: the Plant was the first in the world to successfully industrialize this kind of toner.

The Plant has lived in harmony with the local community for 40 years and all employees are determined to continue this in the future, while at the same time creating an ever-improving workplace of motivated individuals.

## Environment and Safety Activities

### (1) Reduction of Toxic Chemical Emissions

Atmospheric emissions of toxic substances and substances subject to the PRTR law have been greatly reduced since 2003 when the full processing of drying gas emissions in the boiler combustors was achieved. The Plant is committed to performing more activities to further reduce emissions.

### (2) Reduction of Industrial Waste

Although the Plant has been successful in systematically reducing the amount of industrial waste disposed in landfills, the amount of waste that is generated is still high. The Plant is making greater efforts to reduce the amount of waste that is generated, such as waste created through process loss.

### (3) Reduction of Air and Water Environmental Burdens

#### • Air

In terms of reducing SOx and NOx, some effects were seen in 2003 from making the No. 3 boiler more environmentally friendly, but an uptrend is seen in the 2005 results.

In the future, further identification of emission causes and appropriate countermeasures are required.

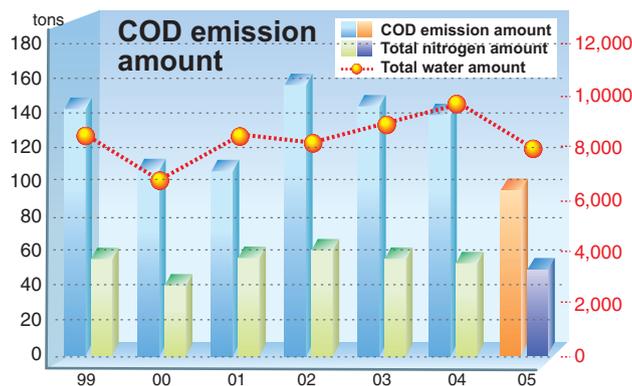
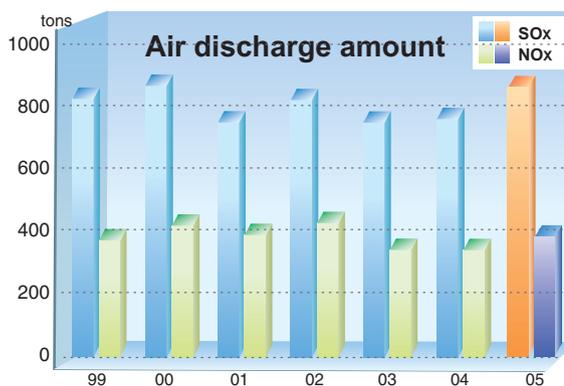
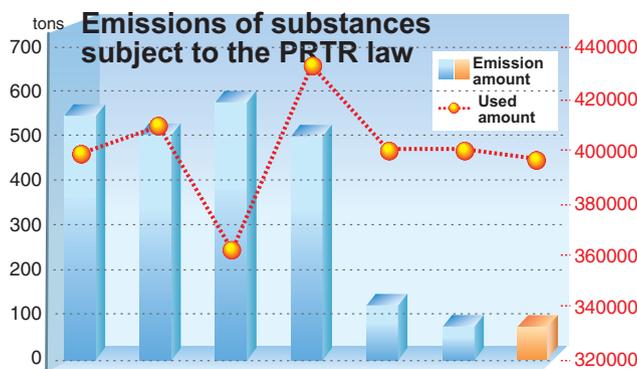
#### • Water

Effective activities for reducing emissions of COD and total nitrogen have been performed since 2002. These have produced successes such as the installation of new dewatering presses at wastewater treatment and improvements to the processing conditions.

### (4) Resource and Energy Conservation

Under the Kyoto Protocol, specific energy consumption must be reduced by 10% from 1990 levels. Although the Plant is aggressively pursuing energy conservation activities that are gradually reducing energy levels, it will be very difficult to meet the Kyoto target.

The Plant is hoping to bring together the knowledge and initiative of all its employees to come up with ideas for significant energy reductions.



Founded: 1965  
 Address: 2-1 Nachi, Shunan City, Yamaguchi Prefecture  
 745-0023  
 Tel: 0834-21-8501 Fax: 0834-21-8793

General Manager, Tokuyama Plant  
 Hiroshi Takegami (Director)



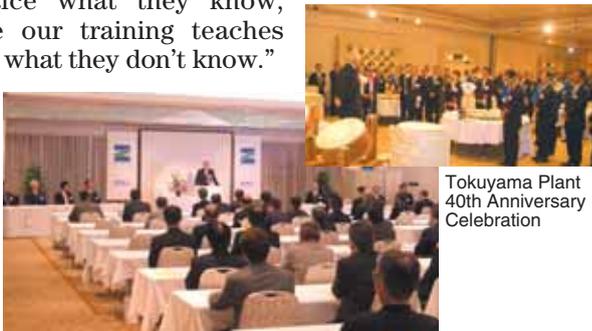
## Living Together with the Local Community

### Live Radio Broadcast by the Plant General Manager

On Sunday, September 18, General Manager Takegami took part in a special live broadcast on KRY Yamaguchi Broadcasting called “Disaster Preparation: 10 years since the Great Hanshin Earthquake”. In response to the interviewer’s questions, the General Manager explained that “All companies in the Industrial Zone perform special drills to ensure safety. Our drills make employees practice what they know, while our training teaches them what they don’t know.”



Live Radio Broadcast by the Plant General Manager



Tokuyama Plant 40th Anniversary Celebration

### Tokuyama Plant 40th Anniversary Celebration

On October 21 over 100 visitors gathered for the “Tokuyama Plant 40th Anniversary Celebration”, which included people from local authorities, residents’ associations, cooperative associations and councilors. President Furukawa greeted everyone with the words: “We want the ZEON Corporation and the Tokuyama Plant to take good care of people in the local community. We will continue to do our best to utilize all the talents of our employees to ensure safe and stable production, and contribute to local economic growth.” The plant employees had an invaluable opportunity to meet and talk with members of the local community.



Summer Festival

### Over 3,000 People Visited ZEON’s Summer Festival

On July 22, ZEON’s 31<sup>st</sup> summer festival saw its greatest ever number of visitors, drawn by the traditional Japanese music that was on show. ZEON’s athletics park was full of people enjoying themselves.

### Environmental Related Data from the Tokuyama Plant

\* Amount of carbon converted

	Year	99	00	01	02	03	04	05
PRTR applicable substances	Amount of consumption (tons)	397,769.6	406,472.5	361,689.8	432,693.8	398,556.9	398,386.8	395,820.7
	Amount of emission (tons)	540.7	505.2	576.9	495.0	126.1	67.4	22.9
Harmful substance emission	Butadiene (tons)	26.2	24.6	35.4	45.6	24.2	19.8	16.5
	Acrylonitrile (tons)	9.4	10.1	4.2	4.7	0.7	0.3	0.8
	Vinyl chloride monomer (tons)	-	-	-	-	-	-	-
Industrial waste	Amount of production (tons)	2,950	3,095	2,676	2,709	2,916	4,042	3,650
	Amount of final landfill (tons)	603	469	401	295	260	216	134.2
Emission into the Atmosphere	Amount of CO <sup>2</sup> emission (tons)	72,630	75,651	75,632	78,253	73,577	72,834	71,615
	Amount of SO <sub>x</sub> emission (kg)	823.2	863.6	733.3	822.3	726.2	755.6	869.5
	Amount of NO <sub>x</sub> emission (kg)	372	411.4	387.9	423.6	326.3	309.7	384.5
Wastewater	Total effluent discharge (1,000m <sup>3</sup> )	8,561	6,725	8,619	8,361	8,904	9,822	8,080
	Amount of COD emission (tons)	143	108.81	110.24	156.69	148.69	138.3	95.3
	Amount of total phosphorus discharge (tons)	0.7	0.6	0.8	0.3	0.7	0.8	0.8
	Amount of total nitrogen discharge (tons)	52.7	38.6	54	62	54.4	52.75	49.5
Energy	(90 =174.9) Total amount (crude oil equivalent, kl)	97,965	101,560	94,449	106,249	100,057	99,088	96,729
	Consumption rate	189.5	188.4	189.5	181	183.2	181.6	180.2
	Consumption rate index (1990 = 100)	108.3	107.7	108.3	103.5	104.7	103.8	103

Message  
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# Mizushima Plant

The Mizushima Plant was founded in 1968 as a part of the Mizushima Industrial Zone in Kurashiki City. This Plant is a symbol of the ZEON Corporation. It brings together ZEON's advanced, independently developed technology that cannot be imitated by other companies.

The Plant responds to customer needs across a wide range of fields. For example, it has licensed its butadiene extraction facilities for use at 47 plants in 19 countries around the world. As a "C5 Fraction Total Use Business", it is also involved with optical material resins (for LCD displays, optical disks, camera lenses, CD pickup applications), synthetic aromatic chemicals (jasmine types, green types) and petroleum resin (adhesive tape materials, traffic paint binders).

## Environment and Safety Activities

The Mizushima Plant works to create a safe and stable workplace by following the General Manager's "ABC Safety System" (being sure to perform the basics properly).

### (1) Reduction of Toxic Chemical Emissions

The plant discontinued the use of benzene in 2001, and after completing the recovery and closed processing system for butadiene in 2002, the air discharge amount has been zero.

The Plant will continue to take action in the future to protect the environment.

### (2) Reduction of Industrial Waste

The ZEON Corporation was one of the investors in Mizushima Eco-works (\*1), a resource recycling type of waste processing facility. It started operation in 2005, since when the final landfill disposal amount has been dramatically reduced from 1,032 tons to 264 tons.

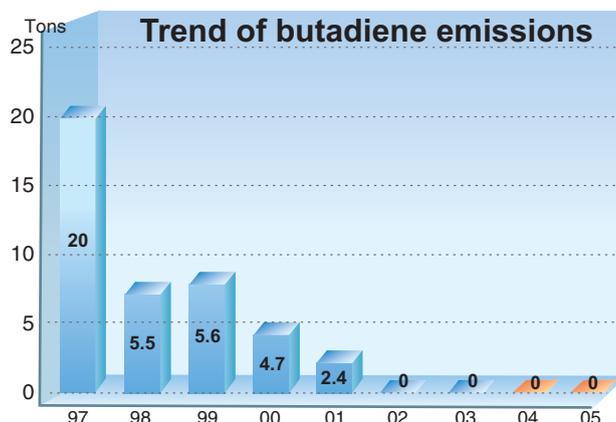
\*1: An integrated waste processing facility in Kurashiki City that processes both regular waste and industrial waste from companies in the Mizushima Industrial Zone. 10 companies from the Industrial Zone invested in the project.

### (3) Reduction of Air and Water Environmental Burdens

Wastewater processing management was improved at each facility, which are the sources of the plant effluent water. This minimized the fluctuations in the load on the wastewater processing facilities to allow more accurate processing.

### (4) Resource and Energy Conservation Activities

Vapor reduction and heat recovery were the main themes of action at the Plant in 2005. In addition to reducing specific energy consumption, the Plant participated in an Energy Effective Utilization Survey organized by the Mizushima district as a part of its engagement with the local community. As a voluntary target, the Plant is working towards reducing its energy use to 90% of the 1990 level by 2010.



ABC Activities



Comprehensive Disaster Preparation Drill

Founded: 1968  
 Address: Address: 2767-1 Aza nihama, Shionasu, Kojima,  
 Kurashiki City, Okayama Prefecture 711-8511  
 Tel: 086-475-0021 Fax: 086-475-1169

General Manager, Mizushima Plant  
 Masafumi Miyamoto (Managing Director)



## Living Together with the Local Community

The Plant's objective is to "Create a Plant that is trusted by the local community". It proactively communicates with the local community through public activities such as meetings to report business activities and meetings to explain plans for new facilities. It also supports and participates in the events of residents' associations. Further, the Plant joins together with neighboring companies in the Mizushima Industrial Zone to perform joint disaster planning to reassure the people living in the local community.

In 2005 an Industrial Zone Comprehensive Disaster Preparation Drill was organized by the prefectural government and held at the Mizushima Plant. Local citizens took part and practiced evacuation drills for

fire, poisonous gas, leaks, earthquakes and tsunamis. The Plant also participated in "Responsible Care Local Community Dialogue Meetings" and helped in local clean-up campaigns. On June 24, 2006, President Furukawa of the ZEON Corporation took part in the "Oh! Genki!" (\*2) program on local radio (OHK Okayama Broadcasting). On the program, the President explained about the "Speed", "Dialogue" and "Social Contribution" principles that are very close to his heart. He said that all important things can be found in dialogue between people and by harnessing this energy a valued contribution can be made to society.

\*2: A program introducing people who live life in their own unique way, and have used their talents and enthusiasm to make a contribution to the local community and wider society.



Outdoor Clean-up Campaign



President's Interview

## Environment Related Data from the Mizushima Plant

\* Amount of carbon converted

Year		99	00	01	02	03	04	05
Harmful substances	Amount of butadiene consumption (tons)	145,476	146,879	143,583	153,919	163,521	149,435	154,510
	Amount of butadiene emission (tons)	5.6	4.7	2.4	0	0	0	0
PRTR applicable substances	Amount of consumption (tons)	516,092	489,028	266,725	303,967	342,931	335,458	336,308
	Amount of emission (tons)	34	23	7	6	2	1	1
Industrial waste	Amount of production (tons)	35,927	57,975	55,821	62,575	56,398	60,975	57,425
	Amount of final landfill (tons)	2460	3,260	1,859	1,091	1,185	1,032	264
Emission into the Atmosphere	Amount of CO <sub>2</sub> emission (tons-C*)	130,109	95,371	90,016	102,320	109,147	111,326	111,194
	Amount of SO <sub>x</sub> emission (tons)	1.7	0.5	3.3	1.9	3.5	3	1
	Amount of NO <sub>x</sub> emission (tons)	134	121	70	58	76	81	68
Wastewater	Total effluent discharge (1,000m <sup>3</sup> )	3,559	2,148	2,025	1,782	2,021	2,290	2,242
	Amount of COD emission (tons)	22	15	12.5	12.8	13.2	14	14.1
	Amount of total phosphorus discharge (tons)	1.4	0.6	0.5	0.4	0.5	1	0.5
	Amount of total nitrogen discharge (tons)	40	19	22	23	21	22	13
Energy	Total amount (crude oil equivalent, kl)	188,178	138,178	128,654	145,725	154,962	159,927	160,179
	Consumption rate index (1990 = 100)	101	104	101	97	94	93	93

## ZEON Kasei Co., Ltd.

In 1981 the Manufactured Goods Division of the ZEON Corporation was made independent and established as ZEON Kasei Co., Ltd. It has grown steadily since then, taking the lead role in the Specialty Manufacturing Goods Field.

### Main Environmentally-friendly Product Developments

#### TIMF-1000: A heat dissipation sheet that is used in plasma televisions

This is a heat dissipation sheet (thermal conduction sheet) that was developed using ZEON's unique technology. It promotes thermal conduction from components that generate heat to the heat dissipation plate, making for efficient heat dissipation.

For example, adhering the sheets to the plasma display panel and chassis enables the heat generated by panel light emissions to be efficiently transferred to the chassis (heat dissipation plate), which increases the overall cooling efficiency of the plasma television. The reduced heat also improves the durability of the product.

ZEON's heat dissipation sheets are easy to peel, making it easy to sort parts when recycling products. It is already being used on plasma televisions.



Easy-to-peel Heat Dissipation Sheet

#### ZEON AL Sheet®: A non-solvent adhering sheet that can be used repeatedly

The sheet is made from foamed acrylic resin using ZEON's unique technology. As long as the surface is flat, the special cell suction effect allows the sheet to be repeatedly attached and peeled off.

No adhesive glue is used, so there is no peeling residue. The interconnected cells provide good air ventilation, and the sheets are very easy to use.

They can be used for a wide range of applications, such as point-of-purchase advertising, seals, labels and for do-it-yourself purposes.

Not only is there a suction effect, but the foam also provides a cushioning effect, and some customers use the sheets for securing or when transporting industrial products.



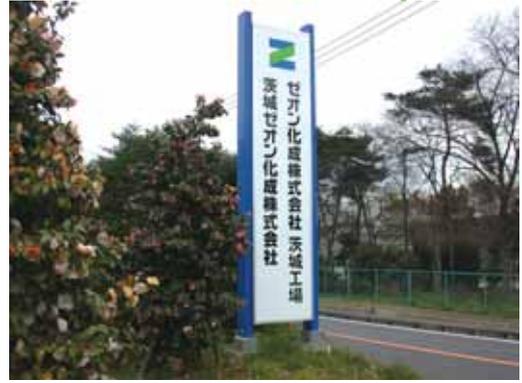
ZEON AL Sheets® Leave No Residue

### Environment Topics

#### ISO14001 Certification

By 2004, certification had been achieved by all of ZEON Kasei's locations, including the head office, research units and plants.

A feature of these activities was the focus on having a positive effect on the environment, and ZEON Kasei continued to develop, manufacture and sell a large number of environmentally-friendly products.



Ibaraki Plant Front Gate Sign

**Durable ZEON Siding®**

ZEON Siding® has excellent durability and its non-sealing method means that maintenance is also easy. It extends the life of materials in the home and so is very economical. Consequently, materials are saved and the energy need to manufacture replacement materials is reduced. When used together with heat insulation materials, the energy needed for air conditioning is reduced, making a large contribution to reducing environmental burdens. ZEON Siding® has already been used on over 5,000 buildings, and ZEON Kasei will continue in the future to expand its business with the objective of further reducing burdens on the environment.

**Company Profile**

- **Name** ZEON Kasei Co., Ltd.
- **Established** October 1, 1981
- **No. of Employees** 66
- **Capital** 462 million yen
- **Head Office** 1-6-2 Marunouchi, Chiyoda-ku, Tokyo, 100-0005  
(13th Floor, Shin Marunouchi Center Building)
- **Locations** Tel: 03-5208-5111 Fax: 03-5208-5290  
Ibaraki Plant
- **Main Business** Manufacturing & Sales of PVC compounds, construction and packing materials

**Example of Siding Construction Made from PVC Resin**



**Products from ZEON Kasei's Ibaraki Plant**



PHS Tray



DVD Player Tray

Message  
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# ZEON Polymix Co., Ltd.

ZEON Polymix Co., Ltd. was first established as Kinki Rubber Processing, Co., Ltd. in 1967 in order to expand into the carbon master batch (CM) field as a part of the ZEON Corporation's rubber business developments. In 1989 it merged with Higashi Rubber Processing Co., Ltd. and changed its name to ZEON Polymix Co., Ltd.



Otsu Plant

Kawagoe Plant

## Status of SHEQMS Activities

ZEON Polymix has built a comprehensive safety, health, environment and quality (SHEQ) management system and is continuously striving to improve its SHEQ performance. In August 2005, the SHEQ management system was formally completed when assessment and registration was performed for OHSAS18001, which is an occupational health and safety management system.

## Environment Improvement Activities

The company is continuing with improvements based on the five environment items (research and development of products for reducing environmental burdens, green procurement, reduction of industrial waste, reduction of noise and vibration, reduction of energy used) in the "SHEQMS Policy" of the ISO14001 assessment and registration of May 2004. ZEON Polymix also closely follows the positive environmental actions outlined in ISO14001:2004 in order to create environmental improvements.

## Activities as a Type 2 Designated Energy Management Factory

As a result of its activities in 2005, the Otsu Plant became a "Type 2 Designated Energy Management Factory". It sets short and mid term target for reducing energy use and works to meet these targets. The employees see these activities as leading to even further promotion and energization of environment activities.

## Website Creation

The ZPI website started operating in July 2006. It describes the company's activities in terms of quality management, occupational health, safety and environment improvements. Please visit the website. <http://www.zeon.co.jp/zpi/>



Cleaning Public Roads



Natural Disaster Preparation Drill

## Company Profile

● <b>Name</b>	ZEON Polymix Co., Ltd.
● <b>Established</b>	April 7, 1967
● <b>No. of Employees</b>	97
● <b>Capital</b>	240 million yen
● <b>Head Office</b>	941-1 Kamiigusa, Kawajima-machi, Hikigun, Saitama Prefecture 350-0152 Tel: 049-297-1511 Fax: 049-297-4709
● <b>Locations</b>	Kawagoe Plant and Otsu Plant
● <b>Main Business</b>	Products Mixing & Sales of synthetic rubber (rubber carbon master batches)

## Living Together with the Local Community

### Protecting the Beauty of Lake Biwa

The Otsu Plant is located in Otsu City, Shiga Prefecture, on the shore of Lake Biwa. Lake Biwa is the largest lake in Japan. Otsu City has established regulations for environment improvements with the objective of achieving a recycling and environment system that befits a city that is located next to such a great natural resource. The Otsu Plant agreed with this objective and in March 2006 concluded an environment protection agreement with Otsu City. The effects of environmental improvements by the Otsu Plant were felt not only within the company but also by people in the local community. The details are described in the "Environment Treasure Chest" section of the Otsu City website. ZEON Polymix also takes part in Lake Biwa clean-up campaigns.



Lake Biwa and the Lake Biwa Bridge

### Cleaning Up the Local Environment

Employees help clean up the local environment by picking up trash from the roads in the vicinity of the Plant and regularly cleaning up illegally dumped junk.

### Preparing for the Unexpected

ZEON Polymix prepares for the unexpected by systematically performing natural disaster preparation drills, fire drills, and by training staff to make emergency calls.

Note CM: Carbon master batch  
SHEQMS: Safety, health, environment and quality management system

# Optes Incorporated

Optes Inc. was established in 1990 as a joint venture between the ZEON Corporation and Sekinos Co., Ltd., as a strategic processor of a cycloolefin polymer that had been developed by ZEON. In 1997, Optes Inc. became a wholly-owned subsidiary of the ZEON Corporation. It designs, develops, manufactures and sells plastic optical parts, and is equipped with advanced processing technology such as injection molding, vacuum deposition processing and molten extrusion.



Takaoka Plant



Sano Plant

## Strengthening the Risk management and Compliance Systems

The risk management system was reviewed and improved, for example by updating the emergency system to cope with any sudden expansion in operations. The compliance system was also strengthened by reviewing ZEON's rules and holding training courses on the principles of compliance.

## Environment Topics

### Reduction of Disposed Plastic

The Sano Plant reduced its disposed plastic as a countermeasure for environmental protection, achieving its 2005 target of a 39% reduction. (43% in 2004)



Various Lenses



Light Diffusion Panel



Film

## Living Together with the Local Community

The Takaoka Plant is involved in clean-up campaigns in the area near to the plant, in order to be a responsible member of the local community.

## Evacuation and First Aid Training

Fire and disaster drills and first aid training are incorporated into the annual plan and are performed in order to prepare for the unexpected.



Natural Disaster Preparation Drill

## Maintaining the Workplace Environment

In addition to promoting the further cleaning of the entire worksites at the Takaoka Plant and Sano Plant, both plants have also instituted health measures such as establishing a smoking area separate from the lunch hall.



Lunch Hall



Separate Smoking Area

## Company Profile

- **Name** Optes Incorporated
- **Established** April 2, 1990
- **No. of Employees** 395
- **Capital** 400 million yen
- **Head Office** 1-6-2 Marunouchi, Chiyoda-ku, Tokyo, 100-8246  
(Shin Marunouchi Center Building)  
Tel: 03-3216-1793 Fax: 03-3216-1777
- **Locations** Sano Plant and Takaoka Plant
- **Main Business** Manufacturing & Sales of Parts for optical devices, design and manufacture of metallic molds

Message

Management

Performance

Site Reports

# ZEON Chemicals Yonezawa Co., Ltd.

ZEON Chemicals Yonezawa Co., Ltd. was established in 1996 as a production company for fine chemical products, and started to produce synthetic aromatic chemicals with leaf alcohol as the main raw material.

Since 1988 it has also been producing liquid compounds for reaction injection molding with dicyclopentadiene as the main raw material.



Overall View of the Offices

## Environment Topics

### Completion of the Chemical Research Building

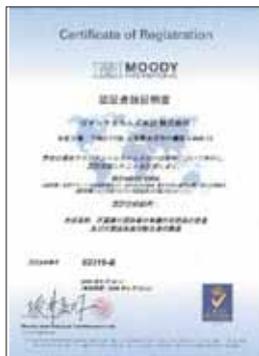
The construction of the ZEON Corporation's research building was completed in April 2006. The new building will be a core facility for developing new chemical products and its location next to the production plant will allow close cooperation between research and production, with the ultimate aim of accelerating the development of new products.



Overall View of the Chemical Research Building

### ISO14001 Certification

The company acquired ISO14001 certification on June 14, 2006 (received ISO9001 certification at the same time.) The assessment organization was Moody International Certification Ltd., a certification body (accreditation number 014) that is accredited by UKAS (United Kingdom Accreditation Service).



ISO14001 Certificate of Registration

## Company Profile

- **Name** ZEON Chemicals Yonezawa Co., Ltd.
- **Established** April 26, 1996
- **No. of Employees** 31
- **Capital** 90 million yen
- **Head Office** Address: 3-446-13 Hachimanpara, Yonezawa City, Yamagata Prefecture, 992-1128  
Tel: 0238-29-0055 Fax: 0238-29-0053
- **Main Business** Manufacturing of Aromatic chemicals, products in the intermediate field between medicine and agriculture, RIM liquid compounds

## Living Together with the Local Community

### Supported the Yonezawa Snow Lantern Festival

Since 1999, ZEON Chemicals Yonezawa has supported the snow lantern festival, which is a traditional winter event in Yonezawa. Both employees and their families come together every year to build two snow lanterns. This year we achieved our long-standing goal of having our lanterns exhibited on the main path to the temple.



Employees and their Families



Completed Snow Lantern

### Joint Clean-up of the Industrial Park

ZEON Chemicals Yonezawa took part in environment clean-up activities in the Yonezawa Hachimanpara Industrial Park in which it is situated, and also put a great deal of effort into other activities to improve the local environment.



Tending the Flowerbeds

# ZEON Logistical Materials Co., Ltd

ZEON Logistical Materials Co., Ltd. was previously a part of ZEON Kasei Co., Ltd., a company that was established when the Manufactured Goods Division of the ZEON Corporation was made independent in 1981. In 2003, ZEON Kasei Co., Ltd. decided to make its logistics materials business independent, and so ZEON Logistical Materials Co., Ltd. was established. One of their main products is "STEC®", a container that is very economical because it reduces the costs of packing and cargo work while streamlining storage and management. It is a groundbreaking logistics tool that makes a large contribution to the environment, and has been highly rated by various industries.



Yamaguchi Plant

## Asia Packaging Exhibition Osaka 2005

ZEON Logistical Materials exhibited an adjustable roll rack that can be adjusted to fit roll products of different lengths. It is compatible with three roll product types. Racks can be folded up and stacked on top of each other to minimize the space that is used. It was highly praised by a manufacturer of high performance films.



Adjustable Roll Product Rack

## Shunan Plant: One Year Anniversary

In July 2005 it was the one year anniversary of the Shunan Plant, which is a maintenance plant for containers that transport rubber. Its operations have been progressing well, based on its core principle of ensuring safety and stability.



Shunan Plant

### Company Profile

● <b>Name</b>	ZEON Logistical Materials Co., Ltd.
● <b>Established</b>	July 1, 2003
● <b>No. of Employees</b>	40
● <b>Capital</b>	100 million yen
● <b>Head Office</b>	1-6-2 Marunouchi, Chiyoda-ku, Tokyo 100-0005 (Shin Marunouchi Center Building) Tel: 03-5208-5167 Fax: 03-5208-5296
● <b>Locations</b>	Osaka Office, Yamaguchi Plant and Shunan Plant
● <b>Main Office</b>	Manufacturing, Design, Maintenance, Recycle & Sales of Packaging containers and related equipment

## Development and Sale of Transport Containers for LCD substrates

ZEON Logistical Materials started selling the ultra-lightweight, environmentally-friendly containers that it had developed.

These containers can hold four cell boxes, which store the LCD substrates. They are used as returnable containers for transporting parts between worksites in the LCD and associated industries.



Transport Containers for LCD substrates

# RIMTEC Corporation

Previously, both the ZEON Corporation and Teijin Metton Co., Ltd. were providing thermosetting resin that was molded using the reaction injection molding method with dicyclopentadiene as the main raw material. ZEON used the product name "PENTAM®" and Teijin used "METTON®". Both companies decided to merge their businesses, and the RIMTEC Corporation is the new company that resulted.

Sales are being promoted not only in Japan, but also in Europe, North America and East Asian countries such as South Korea.



Overall View of the Offices

## Acquisition of a RIM Business

In November 2005, RIMTEC acquired the European dicyclopentadiene-RIM business of the Lubrizol Corporation and established TeleneSAS (head office in France) in order to increase sales of dicyclopentadiene-RIM molded products with a focus on Europe.

## Providing Environmentally-friendly Molding Liquid Compounds and Molded Products

Resin with dicyclopentadiene as its main component has a strength that is equivalent to general-purpose engineering plastic and has the advantage of having high productivity in manufacture because of the reaction injection molding method. Changing to this type of resin will also have the following benefits:

1. The metallic molds can be made lighter than with press molding.
2. The energy consumed by molding can be reduced due to productivity improvements.
3. Since the resin is made up of nearly 100% hydrocarbons, it can be completely burned and so reduces environmental burdens.

And recently, RIMTEC has started to study environment improvement applications for the resin, such as in materials for wind power generators and in solvent less paint for painting the inside of molded products.

## Main Applications for Reaction Injection Molded Products



Combined Septic Tanks (Effective in Reducing Water Burdens)



Sink



Truck Air Deflectors (Lightweight Structure Improves Vehicle Fuel Economy)

## Company Profile

● <b>Name</b>	RIMTEC Corporation
● <b>Established</b>	August 1, 2003
● <b>No. of Employees</b>	29
● <b>Capital</b>	490 million yen
● <b>Head Office</b>	1-6-2 Marunouchi, Chiyoda-ku, Tokyo 100-0005 (Shin Marunouchi Center Building) Tel: 03-5220-8581 Fax: 03-5220-8584
● <b>Locations</b>	Mizushima Plant
● <b>Main Business</b>	Manufacturing & Sales of RIM liquid compounds and plastic molded products

## Environment Topics

PENTAM materials are used for purification tanks even in South Korea.



Molding at "HANA", a South Korean Company



Startup Team

## Living Together with the Local Community

- Cherry-blossom viewing with affiliate employees and their families (April)
- Cleaning the Takashima Harbor Road (May)

## Other CSR Activities

- Ran an exhibit at the International Plastics Fair 2005 (September 2005)
- Continuously performed ISO9001:2000 assessments (October 2005)
- Changed to performing ISO14001:2004 assessments (October 2005)

# Tokyo Zairyo Co., Ltd.

Tokyo Zairyo Co., Ltd. was established in 1947 with the objective of providing a stable supply of raw materials to the rubber industry. It took charge of the sales for the synthetic rubber that was imported by the ZEON Corporation, and when ZEON started to produce synthetic rubber domestically in 1959, it started to perform the role of sales distributor for ZEON's main clients. In July 2000, Tokyo Zairyo merged with ZEON Trading Co., Ltd., which had been a subsidiary of ZEON Kasei Co., Ltd., and became a member of the ZEON group.



CSR Promotion Activities

## Environment Policy

1. As a company specializing in chemicals, we will cooperate with our business partners to promote business activities that are considerate to the Earth's environment and prevent environmental pollution.
2. We observe all laws and regulations related to our business activities whether they are at home or overseas, and also adhere to the voluntary rules to which we subscribe.
3. We set environment objectives and targets in order to carry out our environment policy, and we will construct environment management systems, perform continuous improvements and constantly review our objectives and targets.
4. We keep all our employees fully informed about our environment policy and release related information to the general public.

## Environment Topics

The President was given direct responsibility for the environment and technology in order to promote business activities that are considerate to the Earth's environment and are appropriate for a company that specializes in chemicals. The system for observing

Company Profile	
● <b>Name</b>	Tokyo Zairyo Co., Ltd.
● <b>Established</b>	December 1947
● <b>Capital</b>	227.6 million yen
● <b>Head Office</b>	1-6-2 Marunouchi, Chiyoda-ku, Tokyo, 100-0005 (Shin Marunouchi Center Building) Tel: 03-5219-2171 Fax: 03-5219-2201
● <b>Locations</b>	Nagoya Office, Osaka Office and Okayama Office
● <b>Subsidiary</b>	Vietnam Representative Office Tokyo Zairyo (U.S.A.) Inc. Tokyo Zairyo (Shanghai) Co., Ltd.
● <b>Main Business</b>	Trading of various chemicals and products

the associated rules and regulations was strengthened.

## CSR Promotion System

### CSR Topics

1. Each department identified the potential risks of their workplace and created a "Tokyo Zairyo Risk Identification List".
2. The existing worksite rules were improved and new ones added to create new operation codes and a new system for viewing information.

# ZEON Environmental Materials Co., Ltd.

This company was established on July 1, 2001 and started with two business departments: civil engineering materials and purification tanks. At the end of December 2003, the civil engineering material department was sold to Maeda Kosen Co., Ltd. From January 2004, ZEON Environmental Materials has been a sales company that is focused exclusively on the purification septic tank business.

## Environment Activities

- We have contributed to improving the water environment of the local community by selling PENTAM® purification septic tanks to households and burying them in the ground.
- Water from toilets and everyday use is purified with the PENTAM® purification septic tank and then released back into the environment.
- The objective is to recycle the clear water of the local community and maintain the cleanliness of rivers and nature.

## Living Together with the Local Community

- ZEON Environmental Materials joined forces with the ZEON Corporation's Mizushima Plant to participate in a local clean-up campaign.
- On April 22, 2006, the Green Day 2006 Executive

Company Profile	
● <b>Name</b>	ZEON Environmental Materials Co., Ltd.
● <b>Established</b>	September 1, 2004
● <b>Capital</b>	180 million yen
● <b>No. of Employees</b>	33
● <b>Head Office</b>	2767-22 Aza niijima, Shionasu, Kojima, Kurashiki City, Okayama Prefecture 711-0934 (Inside the ZEON Corporation's No. 2 Mizushima Plant) Tel: 086-470-3711 Fax: 086-470-3722
● <b>Locations</b>	Fukushima, Yonezawa, Osaka, Wakayama, Kurashiki, Okayama, Shikoku Yamaguchi, Fukuoka, Kumamoto, Kagoshima
● <b>Main Business</b>	Sales of domestic combined water purification septic tanks

Committee and the Soja City authorities in Okayama Prefecture jointly organized an event for exploring issues related to the city's natural environment, such as how to protect the Takahashi River. As the local company that deals with domestic wastewater purification, we participated by exhibiting our PENTAM® purification septic tanks.

# ZEON Medical Incorporated

ZEON Medical Inc. was established in May 1989 and the medical equipment production plant at Takaoka City, Toyama Prefecture was completed the following year. The company performs the research, development, manufacture and sales required for providing its customers, who are doctors, with innovative medical equipment (or instruments). These devices are fully up to date with the latest medical technology, responding to diverse needs in medical workplaces and supporting health professionals as they do their best to protect life.



Overall View of the Plant

## Environment Topics

- (1) In the Clean Room facility for medical equipment (or instrument) manufacture, in addition to maintaining standards of cleanliness, ZEON Medical is making efforts to reduce the energy used in operations and reduce the waste generated in the manufacturing stage.
- (2) At ZEON Medical, the production departments were awarded ISO14001 certification in November 1998, and ISO9001:2000 and ISO13485:2003, which is a sector standard related to the medical equipment field, were acquired in April 2004. On this foundation, a wide range of products focusing on the heart and circulatory system have been manufactured.

## Company Profile

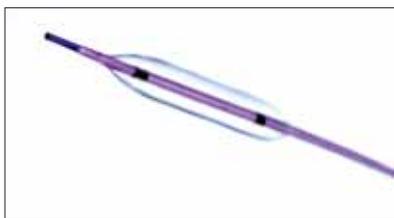
● <b>Name</b>	ZEON Medical Incorporated
● <b>Established</b>	May 1, 1989
● <b>No. of Employees</b>	111
● <b>Capital</b>	400 million yen (as of the end of March, 2006)
● <b>Head Office</b>	2-4-1 Shiba Koen, Minato-ku, Tokyo 105-0011 (7th Floor, Shiba Park Building B) Tel: 03-3578-7724 Fax: 03-3578-7749
● <b>Locations</b>	Takaoka Plant
● <b>Main Business</b>	Manufacturing & Sales of Medical treatment equipment and pharmaceutical products



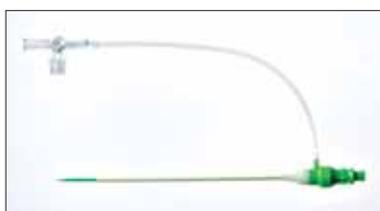
Clean Room



IABP Balloon



PTCA Balloon Catheter A



XEMEX® Introducer Set



XEMEX® IABP Balloon Plus

# Environment Related Data

\* Total amount emitted into the air, water and soil

\*\* Amount of carbon converted

ZEON Kasei Co., Ltd. Ibaraki Plan		2001	2002	2003	2004	2005
PRTR applicable substances	Substance number	5	6	6	3	3
	Amount of consumption (tons)	272	442	253	237	114
	Amount emitted* (tons)	32	54	30	22	16
Industrial waste	Amount of production (tons)	173	244	410	387	426
	Amount of final landfill (tons)	137	195	322	61	62
Amount of CO <sub>2</sub> emitted (tons-C)**		626	790	1,116	725	935
Amount of energy consumed (crude oil equivalent, kl)		1,540	1,789	2,470	2,015	2,382

ZEON Polymix Inc. Kawagoe Plant		2001	2002	2003	2004	2005
PRTR applicable substances	Substance number	3	3	5	5	6
	Amount of consumption (tons)	108	148	74	74	50
	Amount emitted* (tons)	0	0	0	0	0
Industrial waste	Amount of production (tons)	64	100	102	102	121
	Amount of final landfill (tons)	0.8	0	62	62	70
Amount of CO <sub>2</sub> emitted (tons-C)**		1,172	1,239	887	887	866
Amount of energy consumed (crude oil equivalent, kl)		827	897	596	596	595
Amount of energy consumed (crude oil equivalent, kl) - corrected		896	826	832	832	596

ZEON Polymix Inc. Ohtsu Plant		2001	2002	2003	2004	2005
PRTR applicable substances	Substance number	5	5	7	6	6
	Amount of consumption (tons)	395	340	262	214	161
	Amount emitted* (tons)	0	0	0	0	0
Industrial waste	Amount of production (tons)	163	180	190	139	144
	Amount of final landfill (tons)	163	160	182	111	118
Amount of CO <sub>2</sub> emitted (tons-C)**		2,708	2,549	2,598	2,605	2,536
Amount of energy consumed (crude oil equivalent, kl)		1,890	1,800	1,789	1,809	1,800

Optes Inc. Sano Plant		2001	2002	2003	2004	2005
PRTR applicable substances	Substance number	1	1	1	1	1
	Amount of consumption (tons)	0	0	0	0	0
	Amount emitted* (tons)	0	0	0	0	0
Industrial waste	Amount of production (tons)	99	89	178	112	52
	Amount of final landfill (tons)	16	17	25	28	25
Amount of CO <sub>2</sub> emitted (tons-C)**		462	454	525	519	510
Amount of energy consumed (crude oil equivalent, kl)		1,330	1,336	1,575	1,531	1,500

Optes Inc. Takaoka Plan		2001	2002	2003	2004	2005
PRTR applicable substances	Substance number	0	0	0	0	0
	Amount of consumption (tons)	0	0	0	0	0
	Amount emitted* (tons)	0	0	0	0	0
Industrial waste	Amount of production (tons)	36	249	533	997	1,981
	Amount of final landfill (tons)	36	249	259	0	0
Amount of CO <sub>2</sub> emitted (tons-C)**		407	1,377	2,344	4,059	5,821
Amount of energy consumed (crude oil equivalent, kl)		324	1,082	1,842	3,261	4,678

ZEON Chemicals Yonezawa Co., Ltd.		2001	2002	2003	2004	2005
PRTR applicable substances	Substance number	3	2	4	4	4
	Amount of consumption (tons)	12	5	20	25	24
	Amount emitted* (tons)	0	0	0	0	0
Industrial waste	Amount of production (tons)	137	145	207	258	259
	Amount of final landfill (tons)	5	4	4	8	7
Amount of CO <sub>2</sub> emitted (tons-C)**		179	167	213	262	290
Amount of energy consumed (crude oil equivalent, kl)		340	315	390	511	566

As the business of ZEON has become increasingly globalized, we have established bases in our main overseas markets to take care of manufacturing, sales and research related to rubber and resin. These overseas affiliates are performing Responsible Care activities in the same way as the plants in Japan.

## ZEON Chemicals L.P. (USA)



### Company Profile

- **Name** ZEON Chemicals L.P.
- **Established** October 12, 1989
- **Capital** US\$36,000,000
- **Investment Ratio** ZEON Corporation: 100%
- **Head Office** 4100 Bells Lane, Louisville, Kentucky 40211, U.S.A.  
Tel:+1-502-775-7700  
Fax:+1-502-775-7714
- **Main Business** Manufacturing & Sales of Synthetic rubber

### Environment Topics

In Louisville, Kentucky, a program known as the “STAR Program” (\*1) is enforced, which is said to have the strictest air pollution regulations in all the USA. At ZEON’s Kentucky Plant, butadiene, acrylonitrile and ethyl acrylate have been designated as air pollutants, and staff there must work to reduce emissions every year.

They plan to reduce butadiene emissions in 2006 by using a catalytic combustor, which has already been successfully introduced to the Kawasaki Plant.

\*1 An abbreviation of “Strategic Toxic Air Reduction”, it is a plan for reducing air pollutants

### Local Community

A special evening school has been established for Japanese people living in the Louisville area. As a local company, ZEON provides financial support for the school, and sometimes ZEON staff members teach at the school when the regular teachers cannot be present.

America has a tradition of running many charity campaigns every year. This year, ZEON was involved in activities for raising donations and emergency aid for the victims of Hurricane Katrina.

## ZEON Chemicals Europe Ltd. (United Kingdom)



### Company Profile

- Name** ZEON Chemicals Europe Ltd.
- Established** February 6, 1989
- Capital** STG £23,300,000
- Investment Ratio** ZEON Corporation: 100%
- Head Office** Sully, Vale of Glamorgan, CF64 5ZE, United Kingdom  
Tel:+44-1446-725400  
Fax:+44-1446-747988
- Main Business** Manufacturing & Sales of Synthetic rubber

### Local Community

In the United Kingdom, national industrial zones are divided into 21 local community groups known as “cells”, and Responsible Care activities are performed together within the cell.

The most notable characteristic of the Barry Industrial Complex is its lively partnership with the local community. Meetings are held regularly with representatives of the local community to explain details about the businesses, report on improvements made with regard to health, safety and the environment, and to hold educational tours of the plants.

A hotline (free dial) that is always operating has been established to encourage environmental complaints to be reported. ZEON takes a positive role in contributing to the Community Calendar, which is published every year to keep local people up to date with news and events.



Community Calendar



## ZEON Chemicals Thailand Co., Ltd. (Thailand)



### Company Profile

- **Name** ZEON Chemicals Thailand Co., Ltd.
- **Established** May 9, 1996
- **Capital** BHT 350,000,000
- **Investment Ratio** ZEON Corporation: 73.9%
- **Head Office** 3 Tambol Huaypong, Soi G-14  
Pakorn-Songkhororat Road,  
Amphur Muang, Rayong 21150, Thailand  
Tel: +66-3-868-5973/4/5  
Fax: +66-3-868-5972
- **Main Business** Manufacturing & Sales of Petroleum resin

### Environment Topics

#### Safety Audit

A safety audit was performed by the Safety Environmental Affairs Department in December 2005.

#### Activities of the Health and Safety Committee Members

The Health and Safety Committee members perform the committee patrol every month in accordance with the "ZCT Safety Manual". Unfortunately, an accident resulting in work leave happened again this year, so as of the end of March 2006, the number of consecutive days without an accident was 235.

#### Comprehensive Disaster Preparation Drill

As it does every year, ZEON performed a comprehensive disaster preparation drill in November. This time, however, three advisors from the prefectural government observed the drill and gave us feedback after it was over.



Natural Disaster Preparation Drill

### Local Community

ZEON donated a total of 65,800 baht to good causes, which included 50,000 baht for the victims of the tsunami.

## ZEON Advanced Polymix Co., Ltd. (Thailand)



### Company Profile

- **Name** ZEON Advanced Polymix Co., Ltd.
- **Established** April 26, 1995
- **Capital** BHT 100,000,000
- **Investment Ratio** ZEON Corporation: 40%
- **Head Office** 591 UBCII BLDG, Office No. 2206,  
22nd Floor, Sukhumvit 33rd, Klongton  
Nua, Wattana, Bangkok 10110, Thailand  
Tel: +66-2-261-0175  
Fax: +66-2-261-0172
- **Main Business** Manufacturing & Sales of Rubber Carbon master batch

### Environment and Safety Activities

In December 2005, the number of consecutive days without an accident was 829, and this total is still being extended (it reached 1000 days in June 2006). Safety training is performed regularly and displays are used to explain about safety as a part of the Safety Week event.

The following 5S activities were carried out:

- 5S plant patrol by the Safety Committee (every month)
- 5S area contest (every 4 months)
- Big Cleaning Day at the worksite (twice a year)



Natural Disaster Preparation Drill

### Local Community

ZEON has contributed a total of 100,000 baht for the victims of the tsunami on the island of Phuket. As a mark of appreciation from the Thai royal family, ZEON received a commemorative gift directly from Princess Sirintorn.

Other contributions totaled 65,000 baht, which included the donation of stationery and writing materials to two neighboring elementary schools on Children's Day.



Commemorative Award

# Third-party Verification

## 2006 CSR Report Third-party Verification: Statement

Responsible Care  
ZEON Corporation  
To Mr. Naozumi Furukawa, President and CEO



December 14, 2006

Japan Responsible Care Council  
Verification Council Chairman  
Akio Yamamoto  
Responsible Care Verification Center Manager  
Yasuo Tanaka

### ■Verification Objective

- The objective of this CSR report verification is to express our opinions, as specialists in the chemical industry, on the items described below that relate to the 2006 CSR Report (henceforth abbreviated to "the report") that was issued by the ZEON Corporation.
- 1) The rationality of the calculation and compilation methods used for the performance indices (figures) and the accuracy of the figures
- 2) The consistency of information other than performance indices (figures) used in the report with documentary evidence and actual objects
- 3) An evaluation of the Responsible Care activities
- 4) Features of the report

### ■Verification Procedures

- At the head office, we performed an investigation into the rationality of the compilation and editing methods used for the performance indices that were reported from each site (plants and affiliates), and we also checked the consistency of the information used in the report with the documentary evidence. In both cases, we asked questions of the staff in charge of the operations and the staff who created the information, and asked them to provide us with documentary evidence and explanations as required.
- At the Takaoka Plant, we performed an investigation into the rationality of the compilation and editing methods used for the performance indices that were reported to the head office and into the accuracy of the figures used, and we also checked the consistency of the information used in the report with the documentary evidence and the actual objects. In both cases, we asked questions of the staff in charge of the operations and the staff who created the information, and asked them to provide us with documentary evidence and explanations as required.
- A sampling method was used for the performance indices and information verification.

### ■Statement

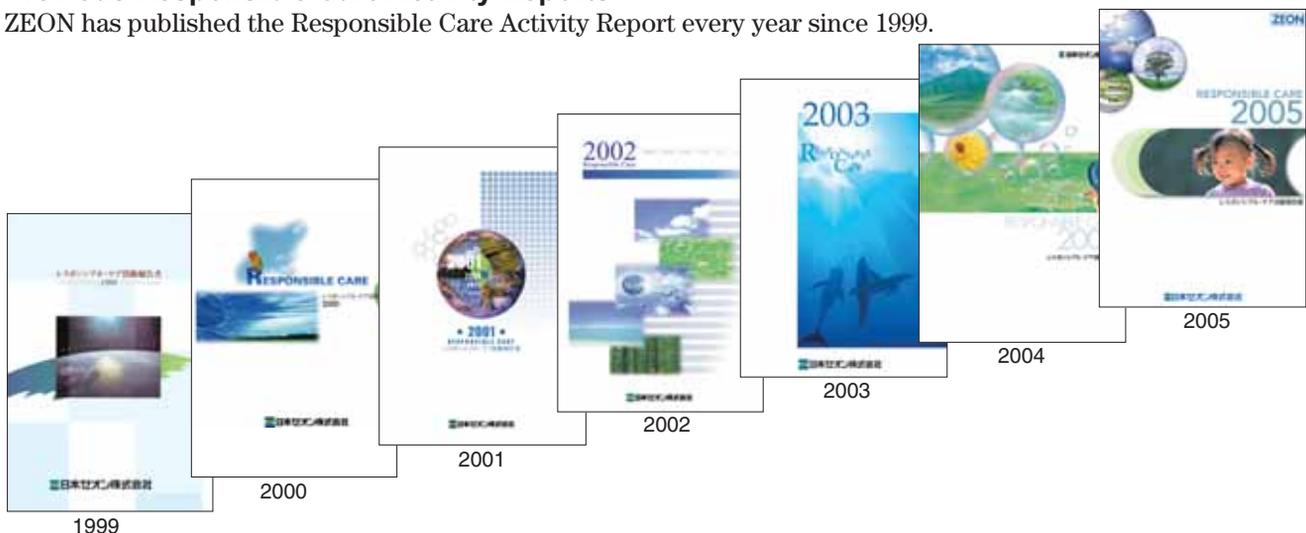
- 1) The rationality of the calculation and compilation methods used for the performance indices (figures) and the accuracy of the figures
  - In terms of the calculation and compilation methods used for the performance indices, although the calculation methods were appropriate, we hope that improvements such as using the intranet will be made, to create a more efficient and accurate compilation method that does not have to be processed via other employees.
  - Within the range of our investigation, the performance figures were calculated and compiled correctly.
  - We judge that excellent systems using the intranet have been firmly established, such as the Process Abnormality Management System, Workplace Injury Information Management System, and the MSDS (Manufacturing Safety Data Sheet).
- 2) The consistency of information used in the report with documentary evidence and actual objects
  - We confirmed that the information included in the report was consistent with the documentary evidence and actual objects that we examined.
  - In the draft stage there were some issues concerning the appropriateness of the expressions used and the intelligibility of the text and figures, but these were corrected by the final version of the report and there are currently no critical items that must be changed.
- 3) An evaluation of the CSR activities and Responsible Care (henceforth abbreviated to "RC") activities
  - We judge that corporate governance and internal control systems, and risk management and compliance systems have been constructed. We also find that RC activities are being expanded and developed into CSR activities and that the top management is showing effective leadership. In the future, CSR activities and system reviews and improvements will be performed around the newly established CSR Department.
  - We judge that RC activities have been expanded to affiliates and that in 2005 there was growth in the number of companies involved in the activities. We hope in the future that CSR and RC activities will be spread even further among the affiliates.
  - From our on-site assessment of the Takaoka Plant, we confirm that the plant general manager checks and evaluates the progress of the CSR annual activity plan every three months and issues instructions for corrections, and that PDCA (Plan, Do, Correct, Action) is being properly implemented. We hope for further improvements in 5S activities. We judge that information is being released to the local community and that interaction with local people is taking place, as evidenced by plant tours for local citizens and families, taking part in local festivals, and participating in clean-up activities.
- 4) Features of the report
  - This year the name of the report was changed to the "CSR Report", and we judge that in addition to RC information, much more information about CSR will be disclosed to the public. We note that information has been included about the activities of affiliates, but we hope that this content will be further expanded in the future.

### CSR Activity Timeline (ZEON Corporation Only)

Year	Activity Details
1994	ISO9002 certification was registered for the Takaoka Plant (changed to the ISO9001:2000 version in 2002) ISO9002 certification was registered for the Tokuyama Plant (changed to the ISO9001:2000 version in 2002)
1995	Joined the Japan Responsible Care Council ZEON declared that it would perform Responsible Care activities The “ZEON Responsible Care Basic Policy” was established ISO9002 certification was registered for the Kawasaki Plant (changed to the ISO9001:2000 version in 2003) ISO9002 certification was registered for the Mizushima Plant (changed to the ISO9001:2000 version in 2003)
1996	The company-wide safety management system was reviewed and strengthened The “ZEON Safety Philosophy” was established The “Plant Technology Audit System” was established and activities started
1997	The “Company-wide Environment Improvement Project” was established The first “ZEON Safety Month” and “All-ZEON Safety Conference” were held (subsequently held every April) A code of conduct (“ZEON’s 7 Articles”) was established
1998	ISO14001 certification was registered for the Takaoka Plant The Kawasaki Plant acquired certification after the high-pressure gas safety inspection
1999	ISO14001 certification was registered for the Tokuyama Plant ISO14001 certification was registered for the Mizushima Plant ISO14001 certification was registered for the Kawasaki Plant ISO9001 certification was registered for the polymer departments The “Risk Management Rules” were established
2000	The Takaoka Plant acquired certification after the high-pressure gas safety inspection Started to publish the “Responsible Care Activity Report” (from the 1999 edition)
2001	The “ZEON Environment Philosophy” was established The “Handling Restricted Materials Rules” were established
2002	The “Affiliate Joint Environment and Safety Meeting” was established The “Project for Reducing the Emissions of Substances Subject to the PRTR law” was established The “Project for Promoting the Development of Energy Conserving Technology” was established
2003	The “Energy Management Rules” were established Revision to the “Risk management and Compliance Rules” Action Plan for “ZEON’s 7 Articles” was established The “Rules for Observing Antitrust Laws” were established
2004	ISO9001 certification was registered for the Specialty Plastics Division The “Internal Report System” was established “Compliance Textbook I” was published
2005	The English version of the “Responsible Care Activity Report” was published Third-party verification was performed for the “Responsible Care Activity Report” “Compliance Textbook II (FAQ)” was published

### Previous Responsible Care Activity Reports

ZEON has published the Responsible Care Activity Report every year since 1999.





CSR REPORT  
2006  
CSR Report

**ZEON CORPORATION**  
<http://www.zeon.co.jp>

**ZEON CORPORATION CSR Department**  
Shin Marunouchi Center Building, 1-6-2 Marunouchi,  
Chiyoda-ku, Tokyo 100-8246 Japan  
TEL:03-3216-0515  
FAX:03-3216-1301

# Questionnaire Request

We would very much like to hear your thoughts and opinions concerning  
ZEON's 2006 CSR Report.

We will take full account of your comments when devising future CSR activities  
and when making the next CSR Report.

We would very much appreciate it if you could fill in the questionnaire  
and then send it to us by fax.

**Circle the appropriate number to select an answer.**

## Q1. What do you think of ZEON's CSR activities?

1. Easy to Understand      2. Average      3. Difficult to Understand

## Q2. What did you think of the activity descriptions?

1. Easy to Understand      2. Average      3. Difficult to Understand

## Q3. How did you rate the CSR activities that ZEON performed?

1. Good      2. Average      3. Poor

## Q4. What items in this report interested you the most? (Select all that apply)

1. Company Profile      2. Corporate Philosophy      3. Promotion System  
4. Relationship with Customers      5. Relationship with the Local Community  
6. Relationship with Employees      7. Relationship with Shareholders and Investors  
8. Product Development      9. Activity Results  
10. Environment Accounting and Environment and Safety Investment  
11. R&D and Plant Activities      12. Affiliate Activities      13. Third-party Verification  
14. Other (      )

## Q5. From what perspective did you read the report? (Select all that apply)

1. Shareholder or Investor      2. ZEON Business Partner  
3. Live Near to a ZEON Plant location  
4. Environment NGO or NPO      5. Government Related      6. Financial Related  
7. Media Related      8. R&D Related  
9. Student      10. Corporate Environment Manager      11. Other (Please specify:      )

## Q6. How did you find out about this report? (Select all that apply)

1. ZEON Website      2. Other Website      3. ZEON Sales Staff  
4. At a Seminar, Lecture or Exhibition      5. Newspaper or Magazine  
6. Friend or Acquaintance  
7. Other (Please specify:      )

## Q7. If you have any further comments, please write them here.

Thank you very much. We would also appreciate it if you could fill in the following

Name	Gender: M / F	Age:
Address:		
Occupation (Place of Work):		
Tel:      (      )	Fax:      (      )	

\* We will manage your personal information carefully. We will not use your information for any purpose other than studying and analyzing this questionnaire and sending the next CSR Report to your address.

**Fax: 81-3-3216-1301 (Outside Japan) To: CSR Department, ZEON Corporation**

Shin Marunouchi Center Building, 1-6-2 Marunouchi, Chiyoda-ku, Tokyo 100-8246 Tel: 03-3216-0515  
Website: <http://www.zeon.co.jp>