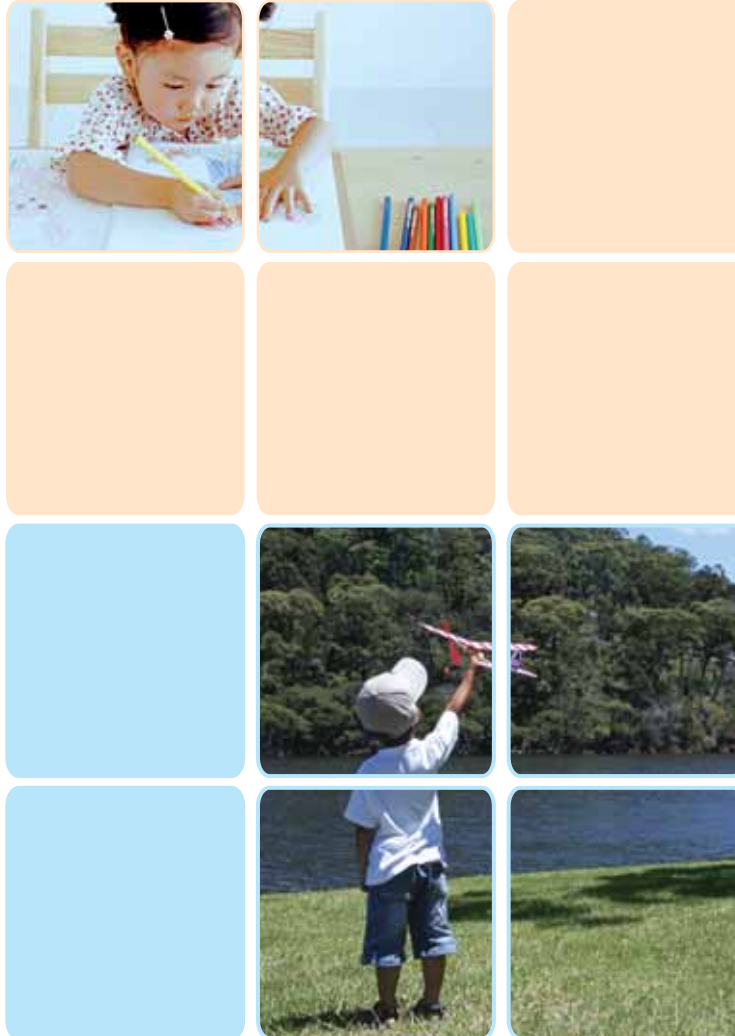


# CSR REPORT



2007  
CSR Report

Corporate Social Responsibility

# Message

## Introducing the 2007 CSR Report

The 3-year mid-term management plan known as PZ-3 commenced in 2005. As part of this program, ZEON acknowledges the importance and necessity of CSR\*1 (Corporate Social Responsibility) across the entire Group, and is working to incorporate CSR principles into all aspects of business operations.

2005 saw the establishment of a CSR Department with a CSR Officer. The “Responsible Care\*2 Activity Report” was renamed the “CSR Report” and expanded to include information about CSR activities at ZEON.

The year 2006, two years into the 3-year plan, was chosen as the time frame for introducing and implementing CSR throughout the entire ZEON group. To this end, presentations on the ZEON approach to CSR were conducted in all areas of the Group.

Flexible structures and mechanisms allow us to satisfy the demands and expectations of shareholders and other stakeholders\*3 associated with the ZEON group, while continuing to contribute to wider society through our core areas of business.

September 2007

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### Report policy

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

- (1) CSR strategies are outlined in “Corporate Mission and CSR Strategies” (page 8)
- (2) The CSR field and associated functions are described in “CSR Framework” (page 12).
- (3) We commission independent verification by the JRCC (Japan Responsible Care Council), in order to receive an evaluation of ZEON’s activities from a third party.
- (4) This activity report is issued annually.

### 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 Zaiyo Co., Ltd., ZEON Environmental Materials Co., Ltd., ZEON Medical Inc., Okayama Butadiene Co., Ltd.

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

### Period Covered

April 2006 –to March 2007 (also includes some new information from after April 2007)

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\*1 An abbreviation for “Corporate Social Responsibility”.

\*2 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 with the local community and society.

\*3 All parties with business interests or concerns associated with the ZEON group.

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Head Office (Shin- Marunouchi Center Building)

Message

Management

Performance

Site Reports

# President's Message

Our corporate name ZEON is an amalgamation of the Greek words “GEO”(meaning the “EARTH”) and “EON” (meaning “ETERNITY”).

It represents a direct statement of our corporate mission.



The management of ZEON made a strong and public commitment to CSR in 2005. This was reflected in our 3-year mid-term management plan (PZ-3) that is currently in progress.

Under PZ-3, we are continually striving to upgrade compliance systems, improve the safety and security of production facilities, and enhance the quality of our partnerships with local communities. In our role as a social organization, we are pursuing the three goals of agility, dialogue and contribution to society with a view to nurturing both public trust and employee pride in our company.

We believe very strongly that incorporating the principles of CSR into our business operations is the best way to enhance our true corporate value.

At ZEON, our mission is to make a positive contribution to the eternity of the earth and the prosperity of the human race. This is highly consistent with the fundamental principles of CSR, and is directly linked to our ongoing contributions in the areas of environmental conservation and human and social advancement.

The semiconductor etching gas product ZEORORA (winner of the prestigious Stratospheric Ozone Protection Award in the US) and the low environment risk cyclo olefin polymer products ZEONEX and ZEONOR are examples of the fruits of our innovative R&D program predicated on the development of technology that is both unique and non-replicable. ZEON is committed to the development of new products with less impact on the environment.

CSR initiatives are concentrated in the following three areas.

1. Stringent compliance systems: ZEON has prepared a set of basic guidelines on internal controls systems in accordance with the provisions of the new Corporate Law.

We have launched an internal reform program that promotes the development and implementation of flexible procedures and structures designed to enable a rapid response to changes in the business environment, as well as adherence to all relevant laws and regulations.

An organizational restructuring at the end of June involved the classification of all areas of the company into eight categories. One of these is CSR, which has responsibility for monitoring and auditing of internal controls over corporate activity.

2. Safe and secure production facilities: We are working to expand our highly successful responsible care programs to promote ongoing innovation and reform at production facilities. Our ultimate aim is to create production facilities that make an important contribution to local communities as well as providing products for our clients.
3. Partnerships with local communities: ZEON is working closely with local communities through exchange programs, voluntary releases of information and active involvement in volunteer initiatives such as local clean-up campaigns.

At ZEON, our aim is to make a lasting contribution to the eternity of the earth and the prosperity of the human race. To this end, we strive to accommodate the needs and expectations of all stakeholders, including local communities as well as our clients and shareholders.

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

September 2007

Naozumi Furukawa  
 President and CEO

古河直純

## ZEON makes an important contribution to society with unique technology

ZEON boasts a world-beating range of products including: special synthetic rubber especially designed for timing belts and other safety-critical components in automobile engines; green note aroma chemicals (leaf alcohol) for perfumes and food flavors; and environmentally-friendly products such as lightweight, transparent cycloolefin polymer resins and etching gases that do not harm the ozone layer.

At ZEON, we strive for innovative and revolutionary new technology and continuous improvement in our core strengths. Our ultimate aim is to establish a leading presence in society.

### ZEON's Business Sectors

Elastomer Business

Specialty Material Business

#### 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

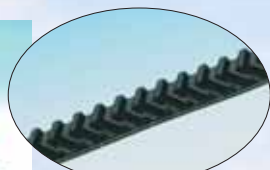
Styrene-butadiene latex, butadiene latex, acrylonitrile-butadiene latex, acrylate latex

##### ● Chemical Products

C5 petroleum resin, thermoplastic elastomer SIS, 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 polymers and processed products



Cycloolefin polymer



Raw film



Cellular phone using specialty plastics

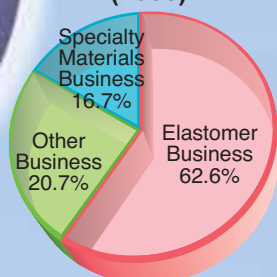


Perfumes using aroma chemicals



## Other Businesses

Sales Share (2006)



## Other Businesses

### ● RIM

Combined septic tank, housing equipment components, RIM(Reaction Injection Molding) 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)



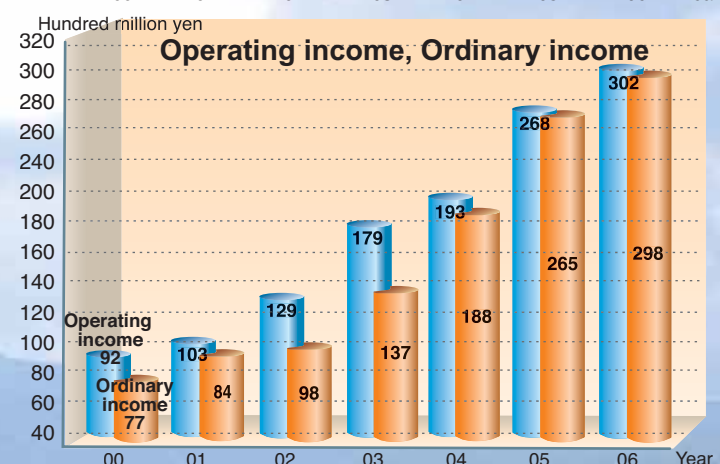
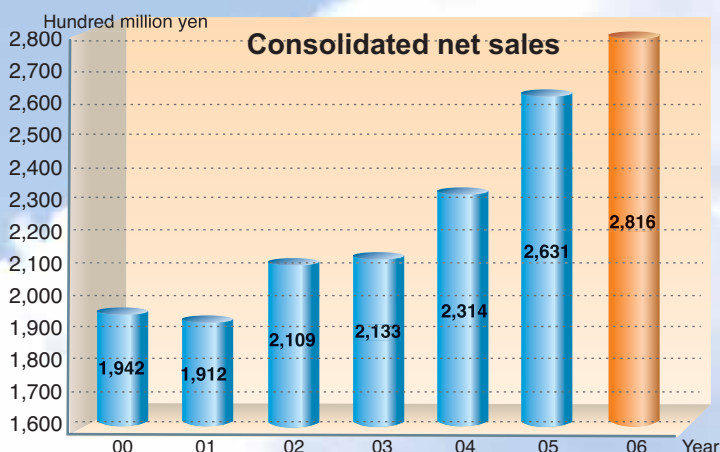
Returnable metal box pallet



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, 2007)
- **Employees** 1,961 (As of March 31, 2007)
- **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** Shin-Marunouchi Center Building, 1-6-2 Marunouchi, Chiyoda-ku, Tokyo 100-8246 Japan  
TEL. 03-3216-1772 (Representative)  
FAX. 03-3216-0501



# Corporate Philosophy and CSR Strategies

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



## CSR Strategies

Recognizing our role as a social organization, we aim to be a company that is trusted by society and of which its employees can be proud.



## ZEON's 7 Articles

### Article 1

ZEON embraces corporate ethics and 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 organization that makes the best use of individuals.

### Article 6

ZEON overcomes challenges through full participation and distributes the benefits fairly.

### Article 7

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



# 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.

\*5s scampaign: Seiri (neatness), Seiton (order), Seisou (cleanliness), Seiketsu (hygiene), and Shitsuke (discipline)

## 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, the Safety Management System, an Environment Management System based on ISO14001, and 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 are clarifying the functions and roles of each agency and organization within the company, enabling speedy decision-making and implementation.

We are also conducting 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

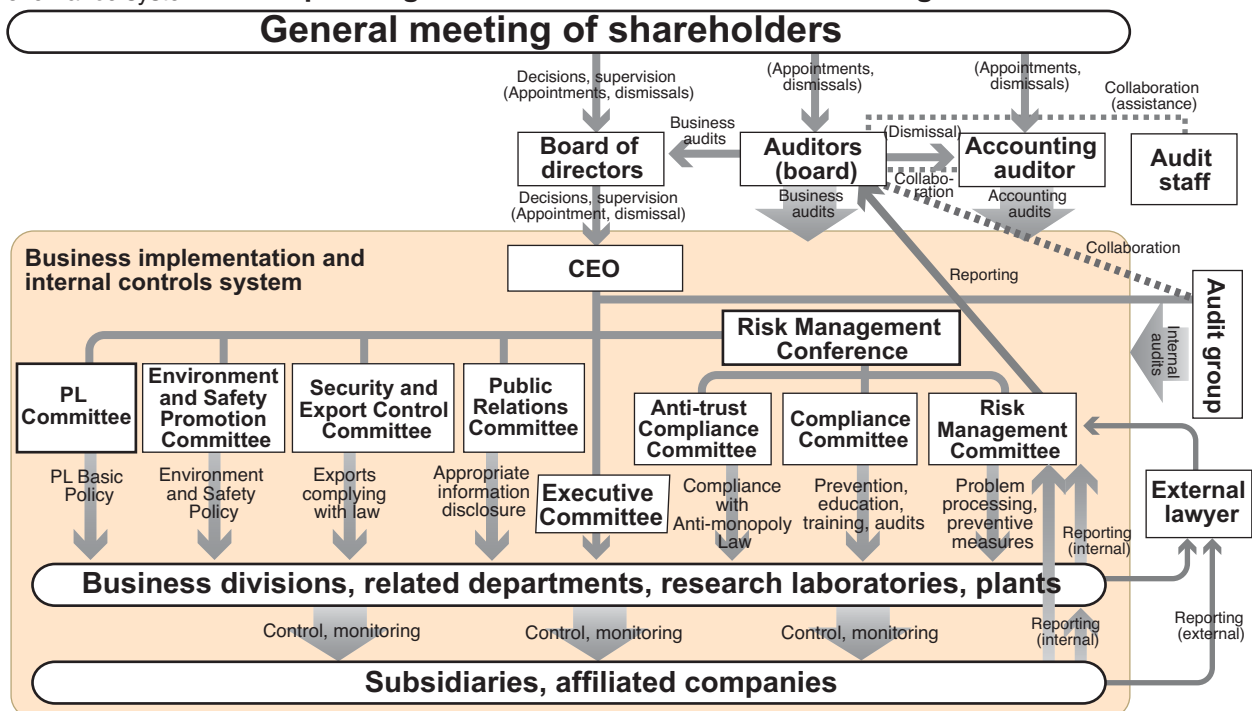
At a Board meeting on April 28, 2006, before the Company Law came into force on May 1st of the same year, our company decided on a “Basic Policy concerning the Establishment of an Internal Controls System”.

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.

### Introduction of the operating officers structure

The operating officers group structure was set up on June 28, 2007 in a bid to improve management efficiency and speed up executive operations.

Governance system “Corporate governance and internal controls diagram”



## 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 controlling potential risks and handling actual incidents that occur at the company, as well as implementing measures to prevent recurrence. The Committee dealt with such incidents in 2006 and preventative measures were put in place. The internal reporting system was utilized for some of these incidents.

"The Compliance Committee" is the body in charge of education, training and auditing activities to prevent violations of laws and regulations.

The Compliance Committee also helps to raise awareness of compliance among directors and employees in the ZEON Group. In 2006, for instance, directors and employees were tested for comprehension of compliance concepts using an e-learning software package.

"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 2006, 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.

### ZEON Risk Management and Compliance System

**Fundamental Principle: Making ZEON a source of pride for all employees**



#### 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.

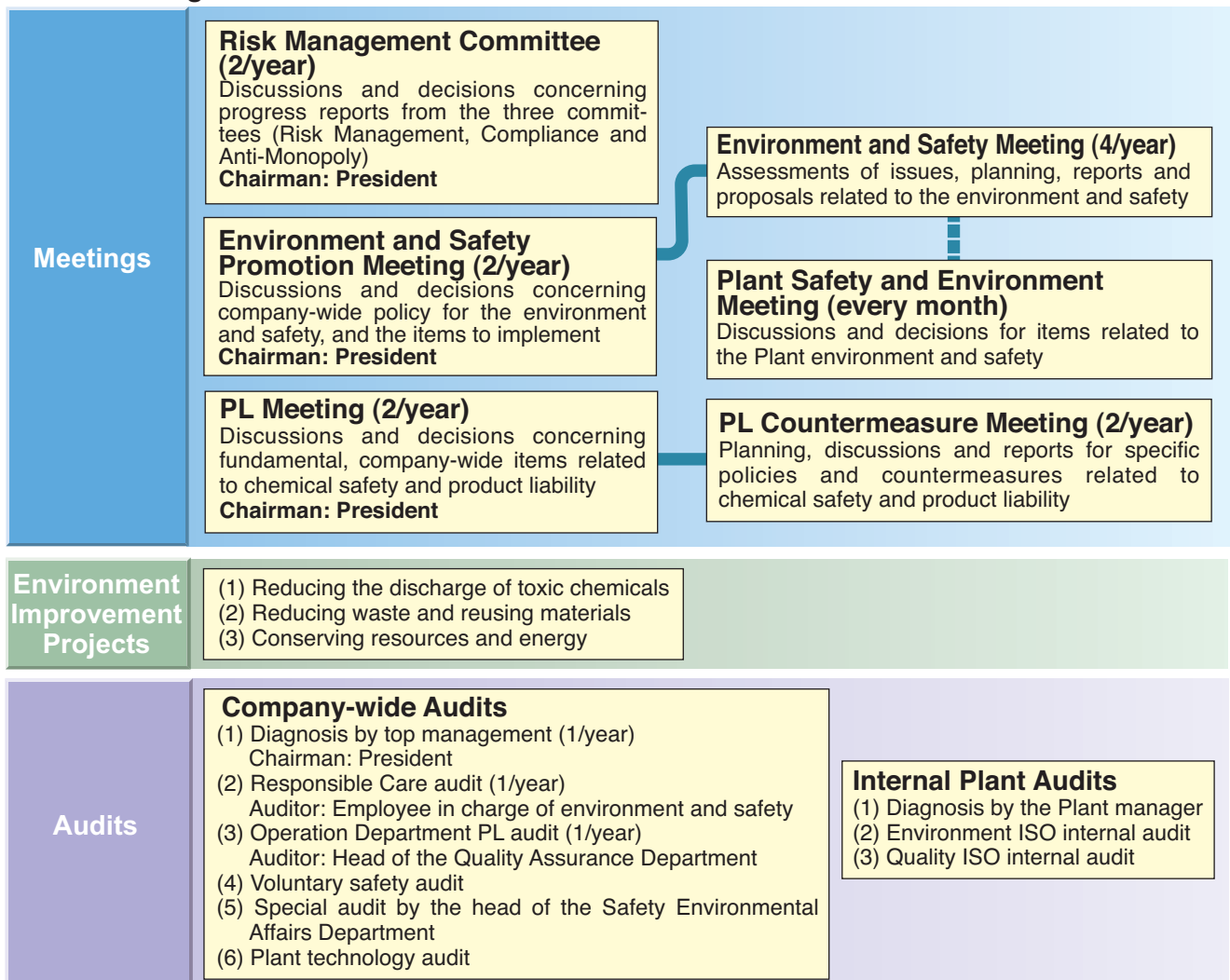
# CSR Promotion Organization

On June 28, 2007, ZEON introduced a new internal structure consisting of eight categories. The change was designed to more clearly define CSR, which is responsible for fulfilling the social obligations of the company.

## CSR Promotion System



## Promotion Organization



# Performance

## 2006 Topics

### Mizushima and Tokuyama plants regain qualification for self safety inspection accreditation

**ZEON is working to upgrade and enhance high-pressure gas safety procedures throughout the company**

November 2003 saw the Mizushima and Tokuyama plants stripped of their accreditation due to nonconformities and other issues. ZEON responded by launching a “company-wide compliance master plan” under the leadership of the President in a bid to restore its reputation in the industry. Following a concerted effort by the entire workforce, the production plants were able to regain qualifications for self safety inspection accreditation.

Accreditation was previously conducted by the

Prefecture, and included annual safety inspections and completion inspections of new construction work. Today, however, facilities with the appropriate qualifications are responsible for their own accreditation evaluation processes.

The Mizushima Plant was accredited in December 2006, followed by the Tokuyama Plant in March 2007.

Safety management systems have been coordinated across all production plants to improve consistency and boost safety levels.



Training session at Tokuyama Plant

### Winner of the City of Kawasaki Urban Planning Design Award

In May 2006, the new eight-story R&D building was completed with financial assistance from Kanagawa Prefecture. Boasting a total floor

space of 10,000 m<sup>2</sup>, the new facility will be used for research geared toward the creation of next-generation business fields. The new R&D building has been designed from the outset with an emphasis on environmental and safety considerations. The design also incorporates aesthetic input from the urban planning regulations.

In November 2006, the R&D building was awarded the City of Kawasaki Urban Planning Design Award for design excellence.



New R&D Building (No. 10 Building)



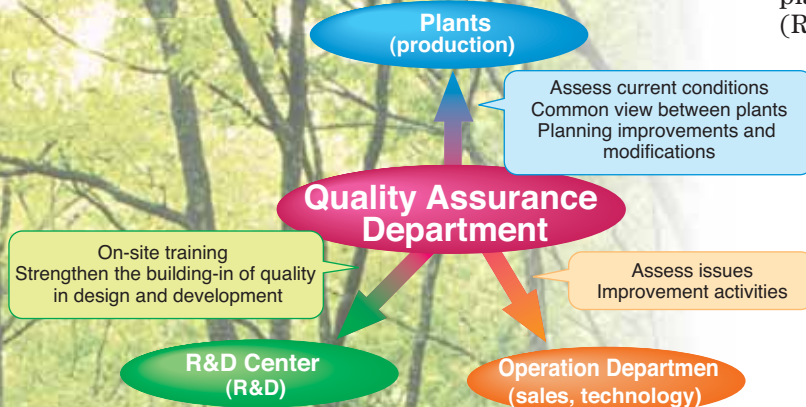
The Mayor of Kawasaki, Takao Abe presents the award to Senior Managing Director Tadao Natsume

## Relationship with Customers

### Quality Assurance

“ZEON delivers products that satisfy the customers”: Article 4 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 satisfy our customers.

Quality management that links production, sales and technology



#### 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	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.
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 the ZEON

Target	Registration No.	Registration Date	Date of Latest Update or Renewal
Takaoka Plant	JSAQ012	1994.10	Jul. 2006 (update)
Tokuyama Plant	JSAQ013	1994.10	Sep. 2006 (update)
Kawasaki Plant	JSAQ016	1995. 1	Nov. 2006 (update)
Mizushima Plant	JSAQ046	1995. 6	May. 2007 (update)
Polymer Departments	JSAQ432	1999. 2	Feb. 2007 (renewal)
Specialty Materials Departments	JSAQ1972	2004. 4	May. 2007 (update)

### Quality Management

We are working to strengthen 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.

The Quality Assurance Department continues to maintain close communication with the quality assurance units at the plants in order to solve any issues that arise at the plants.

The Quality Assurance Department investigates the causes of defects and evaluates countermeasures at production facilities, working to resolve issues from the client perspective.

Our aim is to eliminate customer complaints completely by reducing process errors (which are directly related to complaints) at all production facilities in the group.

### 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.

### Status of ISO9001 Acquisition

At ZEON, 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 group

Target	Registration No	Registration Date	Date of Latest Update or Renewal
ZEON Kasei Co., Ltd., Ibaraki Plant	JTA-0424	2001. 5	May. 2007 (update)
ZEON Polymix Co., Ltd.*	JSAQ93	2000. 4	Apr. 2007 (renewal)
Optes Inc.	Toyama Plant	JQA-QMA9271	2002.12
	Sano Plant	JQA-QMA10869	2003.12
ZEON Chemicals Yonezawa Co., Ltd.*	03319-A	2006. 6	Jun. 2007 (renewal)
ZEON Logistical Materials Co.,Ltd.	JMZOA-705	2000. 7	Jun. 2007 (renewal)
RIMTEC Corporation	JQA-QMA11709	2004.10	Sep. 2006 (renewal)
Tokyo Zairyo Co.,Ltd.	JQA-QMA11669	2004.10	Sep. 2006 (renewal)
ZEON Medical Co.,Ltd.**	SY 50041053 0001	2004. 4	Apr. 2007 (renewal)
ZEON Chemicals (ZCLP)	CERT-01747	2000. 4	Mar. 2007 (renewal)
ZEON Chemicals Europe (ZCEL)	FM01982	1989. 6	May. & Nov. 2007 (renewal)
ZEON Chemicals Thailand CO., Ltd. (ZCT)	C2003-02279	2003. 9	Jun. 2007 (renewal)
ZEON Advanced Polymix Co., Ltd. (ZAP)	149044	2004. 2	Dec. 2006 (renewal)

\* 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)

## 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.

### World-wide Activities for Product Safety Review of Chemical Substances

We are actively involved in the following research and evaluation programs on hazardous chemical substances and safety evaluations, including support through ongoing funding and data sharing.

#### (1) HPV Initiative

- A consortium of companies producing hydrocarbon solvents in association with European and American counterparts (HSJP)
- Japan Challenge Program
- \*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

### Domestic and International Chemical Regulations

In response to the new EU RoHS directive effective July 1 2006 and the introduction of mandatory labeling for designated chemical substances under the Law for Promotion of Effective Utilization of Resources (J-Moss) in Japan,

We are delivering products that are compliant with the maximum content limits on heavy metals such as cadmium, lead, mercury and hexavalent chromium, as well as designated toxic chemicals such as bromine-based flame retardants.

Meanwhile, the new EU chemicals policy REACH was adopted in December 2006 and came into effect on June 1, 2007.

The EU legislation places considerable emphasis on the information flow within the supply chain, which has an enormous impact outside the EU.

ZEON is a member of JAMP and is actively involved in initiatives designed to enhance the accuracy of chemical safety information in the supply chain.

### 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). 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).

safety information on existing high production volume chemical substances

- \*HSJP: Hydrocarbon Solvent Japan Panel, the domestic panel of the International Hydrocarbon Solvent Consortium (IHSC)

#### (2) LRI (supporting R&D toxicity evaluation)

- \*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) Far East subcommittee of IISRP (developing strategies to reduce the environmental impact of synthetic rubbers)

- \*IISRP: International Institute of Synthetic Rubber Producers

- \*RoHS Directive: Restriction of the use of certain Hazardous Substances

- \*J-Moss: The marking for presence of the specific chemical substances for electrical and electronic equipment (JIS C 0952)

- \*REACH policy: The Registration, Evaluation, Authorisation and Restriction of Chemicals

- \*JAMP: the Japan Article Management Promotion consortium

A consortium of upstream and downstream manufacturers of input materials, components and finished products dedicated to creating concrete frameworks for the administration and disclosure of product chemical content information

Following the introduction of GHS labeling and document exchange requirements for designated chemicals from December 2006 under amendments to the Occupational Health and Safety Law, ZEON has modified labeling on products and test specimens listed in the legislation.

- \*GHS: Global Harmonization System of Classification and Labeling of Chemicals



MSDS

#### 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 have provided in-house training on GHS and compliance with the new GHS labeling and document exchange requirements for designated chemicals introduced in December 2006 under amendments to the Occupational Health and Safety Law.

# Relationship with the Local Community

Our relationship with the local community is also described in the site reports “Living together with the local community” on page 35 onwards.

## Television appearances

In February 2007, President Furukawa made a special appearance on the Toyama Television program *The Good Life* to thank the local community following the 50th anniversary of the Takaoka Plant in 2006. He also spoke of the mission to “make Toyama a leading international production hub” and extolled the virtues of “working at ZEON”. Meanwhile, ZEON Environmental Materials president



Television interview

Sawa (see page 53) appeared on the Okayama television program “I Love Café” to talk about ZEON’s water-saving products such as the combined kitchen and toilet sewage treatment system.

## Responsible Care and Community Dialogue

The 5<sup>th</sup> Responsible Care Regional Dialog in Yamaguchi East was held in September 2006. Management of the community dialog event, held every two years, is shared on a rotating basis among 16 companies that own production facilities in the Shunan industrial complex with 5 organizing companies.

The Tokuyama Plant acted as an organizer for the most recent community dialogue, which attracted some 166 people including local and national government, industry bodies and education



## Joint initiatives with universities

As part of the centenary anniversary celebrations at Tohoku University in 2007, ZEON exhibited phase-difference films and diffuser panels at a “large-screen LCD television” exhibition staged in March 2007 by the New IT Industry Creation Division of the New Industry Creation Hatchery Center (NICHe), a joint university-industry initiative of Tohoku University.



ZEON’s exhibit at NICHe

authorities.

In November 2006, the Mizushima Plant organized the Responsible Care Dialogue for the Okayama region, which witnessed a lively discussion among 130 people including the government and companies members as well as various other interested parties.



Okayama Community Dialog

Yamaguchi East Community Dialog



# Relationship with Employees

## ZEON strives to be a company that inspires pride in each and every employee

We strive to be a company as well as a trusted presence in the community and inspires pride in every employee. To this end, the company pursues the three key goals of “Speed”, “Dialogue” and “Social Contribution” in line with the ZEON’s 7 articles, particularly article 5 (Utilizing the strengths and abilities of the individual within the organization) and article 6 (Working together as a team and sharing the benefits fairly).

### Encouraging employees to take up new challenges and achieve their goals

At ZEON, we believe that a truly competitive company is the sum of the skills of its employees. To this end, the corporate environment is designed to motivate and inspire employees to rise to new challenges while pursuing continuous improvement through innovation, predicated on clearly enunciated duties and outcomes for every individual coupled with equitable remuneration for the achievement of expected outcomes.

The company is committed to rewarding innovative practices that generate added value and maintaining fair and equitable distribution of opportunities and outcomes.

#### Fair performance assessment procedures

All employees are subject to performance assessment through a goal-oriented evaluation process predicated on fair and equitable evaluation of individual outcomes and achievements together with positive encouragement for personal development and improvement.

Details of the performance assessment process are freely available to all employees, and evaluation discussion meetings are held in all departments and divisions at the start and end of every accounting period. These initiatives are designed to ensure fairness and equity from multiple perspectives. In addition, individual employees are provided with direct feedback on the results of their evaluation.

#### Merit-based bonuses

The merit-based bonus system at ZEON uses a clearly defined formula of targets versus achievements to ensure fair and equitable sharing of benefits among all employees. The bonus system considers achievement at three levels - by the individual, by the department/division and by the company as a whole - and is designed to promote a collective sense of purpose in working towards challenging targets.

#### Awards system the ZEON Challenge Award

Awards schemes include Employee of the Month



FY2006 recipients of the President's Award

(bestowed by department managers on a monthly basis) and the annual President's Award, whereby individual employees and departments nominate specific challenge at the start of the year and are judged on their progress in the nominated area.

The selection process emphasizes individual achievement, in terms of identifying employees who make an outstanding contribution to the company.

The annual presentation of the annual President's Award involves a lavish ceremony and dinner function.

The event always includes surprises - for example, the families of the winners are invited to attend, unbeknownst to the winners themselves. It provides an important opportunity to celebrate their achievements while looking forward to the challenges of the coming year.

### Promoting dialogue and improving the workplace environment

ZEON has led the industry in introducing workplace initiatives predicated on the key concepts of “Reliability”, “Motivation”, “Achievement”, “Security” and confidence. The company also provides a range of employee health and welfare programs including “Better Workplace Environments”, “Promoting Dialogue”, “Improve Your Health” and “Supporting Self-Reliance Based on Life Plan”.

The “Promoting Dialogue” program encompasses all forms of dialogue including dialogue between management and workers, dialogue between the company and workplaces, and inter-workplace dialogue (also known as communication). The aim is to break down the barriers between organizations and ensure that the entire workforce is pulling in the same direction. In this way, we can make the company a source of pride and inspiration for employees.

#### Discretionary work hours scheme

In recognition of the diversification of living and working patterns, ZEON has introduced initiatives designed to allow employees a greater degree of choice in “working arrangements”. “A discretionary work hours scheme for employees” engaged in R&D was introduced in April 2000.

This was followed by a similar scheme for employees involved in planning and development work, launched in November 2005.

#### Child care and nursing care support schemes

ZEON provides support for employees balancing work and family commitments in the form of paid child care leave (conditions apply).

Employees who take advantage of child care and nursing care leave are eligible for special support subsidies.

# Relationship with Employees

## Rent subsidy system and home ownership allowance

In response to employees' diverse needs, we have put effort into expanding the housing assistance system. In addition to conventional assistance such as company-owned dormitories and corporate housing, we have introduced a rent subsidy system and a home ownership allowance.

## Dialogue with management level

Importance is attached to dialogue between management and employees at, for example, the annual policy meeting held by the president himself at the head office and other offices, audits by the president together with management level, and research hearings.

After the president's audit and research hearings, we promote even deeper interaction over drinks.

## Dialogue planning

We hold dialogue promotions at each office and workplace aimed at all employees with the goal of creating a culture of mutual regard and improving situated empowerment. We are thus creating an environment in which employees can interact freely and openly with one another.



Head office dialogue promotion (coastal dragline fishing)

## “Human Resources” Utilization Policy that gives Consideration to Each Individual's Career

We aim at a workplace that enables a diverse range of human resources to participate actively regardless of gender and even after the retirement age.

We also assist each employee to work actively toward his or her goal.

## Recruitment of female employees

For working women, bearing children and raising them while holding down a job are very important issues.

As the result of our yearly expansion of the next-generation child-rearing assistance system, the number of workers who take up the system is on the increase.

In fiscal 2006, 100% of female employees who gave birth also took child-care leave. The rate of employees resuming work after child-care leave is currently at least 80%.

These advantages are furthering the recruitment of female employees.

## ZEON Master system

In fiscal 2006, we introduced a retired worker reemployment system, and many veteran employees are active in various workplaces.

As of July 1, 2006, 86 (70%) of our 123 retired workers have been reemployed.

## Career design training

In addition to traditional training and development, we are conducting career design training courses for employees aged 30, 40, 50 or 57 as part of human resource development and training aimed at self-reliance and self-fulfillment by the individual.

Each individual is making gradual but steady progress by depicting future images of work and personal life, establishing future objectives, forming the objectives into an implementation plan, and undertaking regular post-course follow-up training in line with the individual's ability and aptitude and based on the individual's own values and awareness of issues.



Career design training course (group discussion)

# Relationship with Shareholders and Investors

## Relations with Shareholders and Investors

Hits on our home page are steadily increasing following the establishment of the [Site for Individual Investors] in fiscal 2005.

In recognition of the fact that timely communication of information to shareholders and investors is increasingly important, we are focusing on IR activities.

### Communication with corporate investors and analysts

We are responding positively to visits and media coverage by corporate investors and analysts from both within Japan and abroad.

At the briefing sessions for analysts held mid-term and at the settlement period, in addition to an explanation of final accounts, the head of management is reporting on progress in the 3-year medium-term management plan PZ-3 that we are currently tackling with the aim of “Realize dramatic progress” and “Improve corporate value”.

### Communication with shareholders

To make it easier for shareholders to understand our business, on the day of the fixed general meeting we exhibit and showcase a display panel along with commercial products and models that use our manufactured goods.

We provide video on our home page showing progress on the 3-year medium-term management plan [PZ-3] explained at the briefing sessions for analysts.

[Web] Investor Relations - 3-Year Medium-Term Management Plan

<http://www.zeon.co.jp/ir/pz3.html>



Introduction to products following the annual shareholders' meeting

### Operation of a site for individual investors

The site for individual investors not only shows up-to-date final accounts information in [Latest Final Accounts Information] but also shows in graph form the transition in business performance over the past five years under [Business Performance Highlights] in [About ZEON]. It also contains a video giving a brief 15-minute introduction to the company.

[Web] Site for Individual Investors <http://www.zeon.co.jp/kojinir/index.html>



# 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, VOC (volatile organic compound) reduction 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.



Road marking paint using C5 petroleum resin

### 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.

Products Contributing to Ozone Layer Protection and Global Warming Prevention



EPA Ozone Protection Award



Detergent Objects

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



Energy Saving

Global Warming Prevention

Reduction of VOC Emissions

Reduction of Environmental Risks

Products made with Zeonex, Zeonor

Products with Low Environmental Risks

Cycloolefin polymer

“ZEONEX®”

“ZEONOR®”

ZEONEX and ZEONOR 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.

They are 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.



Syringe



Lenses and Prisms



Compact discs



Large-size light guiding film for notebook PCs

Message

Management

Performance

Site Reports

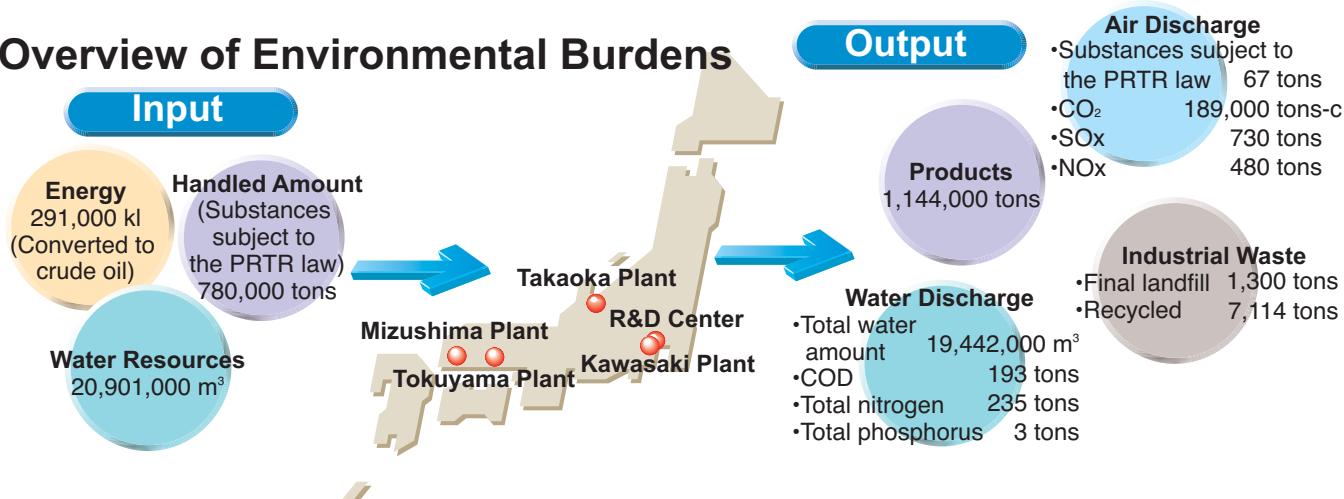
# Achievements

## Overview of 2006 Plan and Results

Item	2006 Plan	2006 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 (also implemented at head office and one affiliated company)	☆☆☆
	(4) Zero environment abnormalities, zero safety abnormalities	Zero environment abnormalities, zero safety abnormality	☆☆☆
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 3.8 times/workplace	☆☆☆
	(2) Zero accidents that result in work leave, zero serious accidents that do not result in work leave	2 accidents that resulted in work leave, zero serious accidents that did not result in work leave	☆
3 Reduce environmental burdens	(1) Implement a voluntary management plan for air-polluting toxic substances Reduce the butadiene air discharge from the 2005 level of 25t to 15.1t Reduce the acrylonitrile air discharge from the 2005 level of 25.2t to 22t	Butadiene: 25.1t (0.4% up from the previous year) Acrylonitrile: 24.7t (2% reduction from the previous year)	☆ ☆
	(2) Implement a zero emissions plan for industrial waste Reduce final landfill amount from the 2005 level of 2,210 t to 1,212 t	Final landfill amount: 1300 t	☆☆
	(3) Strengthen the company-wide energy conservation project Reduce specific energy consumption to 90.6% of the 1990 level Aggregation of distribution-related energy	Specific energy consumption reduced to 92.1% of the 1990 level Explained to the four plants and R&D Center, and reported in fiscal 2006	☆ ☆☆☆
4 Promote chemical safety and product safety	(1) Implement product safety reviews for new products and new applications	12 reviews required, 12 completed	☆☆☆
	(2) Provide customers with environment and safety information(MSDS)	Issued MSDS for all products and implemented corrections (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 law violations	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 logistics accident	Zero logistics accident	☆☆☆

☆☆☆ Target achieved ☆☆☆ Target was almost reached ☆ Require's Improvement

## Overview of Environmental Burdens



# Safety and Accident Prevention

A manufacturer's starting point is the plant. Our management and plants work together every day to achieve their shared mission of "Emphasizing safety, the environment and quality, and ensuring a 100% accident-free, casualty-free workplace".

## Dialogue between Management and Plants

Not only is there dialogue between management and the top officials of the plants, but management holds direct dialogue with plant employees working on the plant's front line, earnestly discussing how to create a more stable, safer and better plant.

The president visited plants on 50 days in 2004, on 56 days in 2005, and on 43 days in 2006, thus ensuring that dialogue remains invigorated.

## 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, in line with the Company-wide Compliance Master Plan. The president verifies progress by direct audit.

### 1. Introduction of an equipment information management system to prevent omissions ("Never rely on 'maybe' or 'should'")

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.

We are advancing fool-proofing to prevent accidents by involving all employees in brainstorming.

### 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 and 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.

## Accreditation of all offices as certified safety inspectors

In fiscal 2006, our Mizushima and Tokuyama Plants were accredited as certified safety inspectors.

All our offices were accredited as certified safety inspectors. (In 2005, the Takaoka Plant renewed its accreditation based on the new code, and in 2007 the Kawasaki Plant plans to renew its accreditation based on the new code.)

In order to build a safety management system and ensure that safety is enforced more reliably, we are undertaking work to pinpoint the sources of danger lurking in plants and establish measures that will lessen the extent of their impact on safety.

In addition, the plant safety inspections that we undertake ourselves are conducted soundly in accordance with the prescribed method, and we are bolstering our two approaches to ensuring safety: a hardware-based safety system using facilities and also a software-based system.

## Plant Safety 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 and we set detailed check items and evaluate the safety in order to create a more stable and safer plant.

We performed this 53 times in 2005 and 54 times in 2006.

## All ZEON Safety Conference

April of each year is Nippon ZEON Safety Month in which we strengthen our safety activities.

During this period, we hold our 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.

Following on from last fiscal year, this year we again invited an outside lecturer to give us a presentation on accidents, problems and human error.

The Safety Conference is broadcasted to all offices with a view to enhancing safety awareness.



Inspection tour by the president (Mizushima Plant)



All ZEON Safety Conference

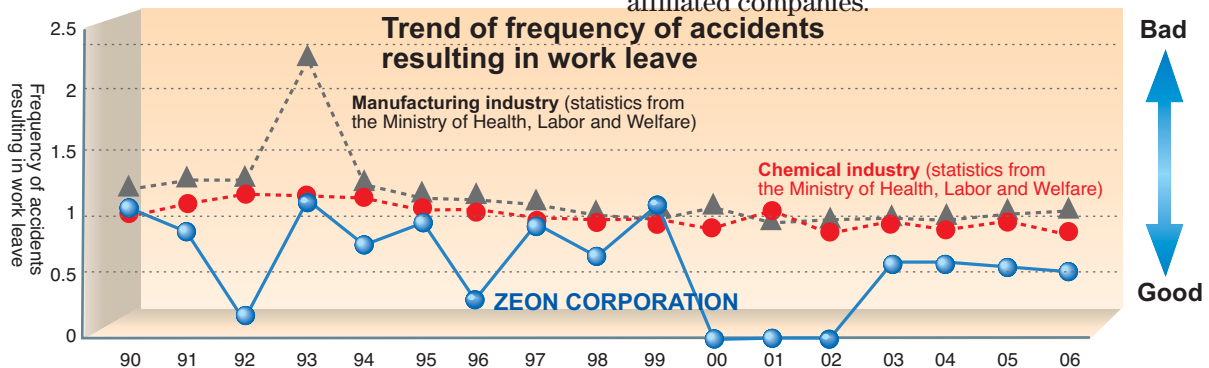
# Occupational Health and Safety

## Industrial health and safety initiatives

**ZEON is committed to creating accident-free workplaces for the sake of employee health and well-being.**

At ZEON, our principal focus is on developing safe and stable production facilities in line with the president's exhortation of an "ongoing dedication to quality, capacity, safety and stability at production facilities". To this end, we employ a range of

initiatives designed to promote safe and stable production systems, such as: classes for administrators and supervisors on learning to identify potential dangers; workplace-specific campaigns to eliminate workplace accidents by identifying potential dangers; educational campaigns on prevention of workplace accidents involving older employees; hands-on training on accidents involving getting caught in machinery; and safety training at affiliated companies.



## 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" at our sites, affiliates and partner companies.

In 2006 visits were made to five ZEON sites, 13 sites of our 11 affiliates and three partner companies. 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 (ZEON Polymix)

increasing incidence of lifestyle-related illnesses and health problems.

We provide a wide range of health checks, including the regular health checkup prescribed by law, special health checkups, screening tests for metabolic (visceral fat) syndrome, bowel cancer tests, eye examinations, gastric examinations, gynecological tests, tumor marker tests and family check-ups.

## Mental Health

The increasing intensity and complexity of working requirements and the pace of technological change, particularly in the area of IT, have combined to cause a rising incidence of work-related stress disorders and mental health problems.

In particular, the number of workers experiencing unease, stress and worry in relation to work and workplace issues is steadily increasing.

ZEON is committed to promoting the well-being of employees through an annual mental health training conference for all company employees.

In 2006 we held 10 training conference for all managers and supervisors based on the theme of "counseling skills commensurate with their leadership status".

To improve workplace health care at each plant, we hired mental health experts to work at head office, R&D Center and other individual plants to enable more relevant care to be given.



Health programs (Tokuyama Plant)



Mental health study session (Kawasaki Plant)

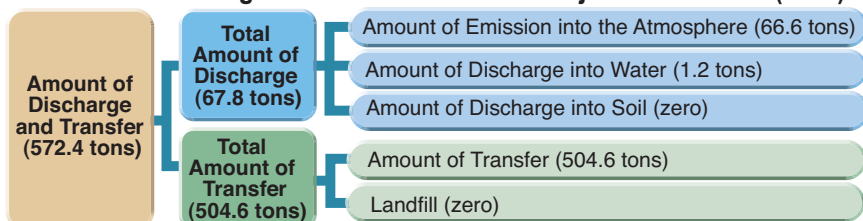


# PRTR Activity

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

The PRTR (Pollutant Release and Transfer Register) Law applies to 40 substances used throughout ZEON. This is two less than in 2005 when we had 42 listed substances. The total discharge has been increased slightly from 65.9 tons in 2005 to 67.8 tons in 2006. We have created a mid- to long-term plan, and are making efforts to reduce the amount of discharges and transfers.

## Amount of Discharge and Transfer of PRTR Subject Substances (2006)



## 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 (tons)
2	Acrylamide	75.3	0.1	0.0	0.1	0.0
3	Acrylic acid	125.0	0.0	0.0	0.0	0.0
4	Ethyl acrylate	2,024.1	2.5	0.0	2.5	0.0
6	Methyl acrylate	31.6	0.1	0.0	0.1	0.0
7	Acrylonitrile	24,490.5	24.7	0.0	24.7	17.7
22	Acryl alcohol	56.5	0.0	0.0	0.0	0.0
23	1-allyloxy-2, 3-epoxy propane	193.7	2.0	0.0	2.0	0.0
24	linear alkylbenzenesulfonate and salt thereof	1,024.1	0.0	0.0	0.0	0.0
28	Isoprene	164,425.7	0.7	0.0	0.7	0.0
30	Bisphenol A type epoxy resin	10.6	0.0	0.0	0.0	0.0
42	Ethylene oxide	1,279.8	0.9	0.0	0.9	0.0
46	Ethylene diamine	1.8	0.0	0.0	0.0	0.0
47	Ethylenediamine tetraacetic acid	66.4	0.0	0.0	0.0	0.0
54	Epichlorohydrin	794.5	0.0	0.0	0.0	0.0
56	Propylene oxide	29.4	0.0	0.0	0.0	0.0
63	Xylene	1,905.7	0.1	0.0	0.1	0.0
77	Vinyl chloride	777.0	1.3	0.0	1.3	0.0
102	Vinyl acetate	327.3	0.0	0.0	0.0	0.0
159	Diphenylamine	3.9	0.0	0.0	0.0	0.0
172	N, N-dimethylformamide	209.8	0.0	0.0	0.0	0.2
177	Styrene	46,614.2	4.3	0.0	4.3	6.5
179	Dioxins*	1.3	1.2	0.1	1.3	0.0
202	Tetrahydromethyl phthalic anhydride	3,432.0	0.0	0.0	0.0	343.2
227	Toluene	5,060.0	1.9	1.2	3.1	137.0
231	Nickel	49.2	0.1	0.0	0.1	0.0
232	Nickel compound	76.3	0.0	0.0	0.0	0.0
256	2-vinylpyridine	238.8	0.4	0.0	0.4	0.0
266	Phenol	187.3	0.0	0.0	0.0	0.0
268	1, 3-butadiene	516,427.8	25.1	0.0	25.1	0.0
272	Bis phthalate (2-ethylhexyl)	268.3	0.0	0.0	0.0	0.0
299	Benzene**	3,460.6	0.0	0.0	0.0	0.0
307	Poly(oxyethylene) alkylether	66.7	0.0	0.0	0.0	0.0
309	Poly(oxyethylene) nonylphenyl ether	67.7	0.0	0.0	0.0	0.0
310	Formaldehyde	2.1	0.0	0.0	0.0	0.0
313	Maleic anhydride	2,958.5	0.7	0.0	0.7	0.0
314	Methacrylic acid	1,764.9	0.1	0.0	0.1	0.0
316	Methacrylic acid 2,3-epoxy propyl	9.3	0.0	0.0	0.0	0.0
319	Methacrylic acid (n-butyl)	2.9	0.0	0.0	0.0	0.0
320	Methyl methacrylate	1,427.6	1.6	0.0	1.6	0.0
321	Methacrylonitrile	4.6	0.0	0.0	0.0	0.0
	<b>Total</b>	<b>779,971.5</b>	<b>66.6</b>	<b>1.2</b>	<b>67.8</b>	<b>504.6</b>

\* Units of dioxins are mg-TEQ \*\* Benzene represents impurities in raw materials  
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 actively promoting a reduction in the amount of butadiene and acrylonitrile emissions.

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 (as an input material) in 2000 and consequently have achieved zero atmospheric emission.

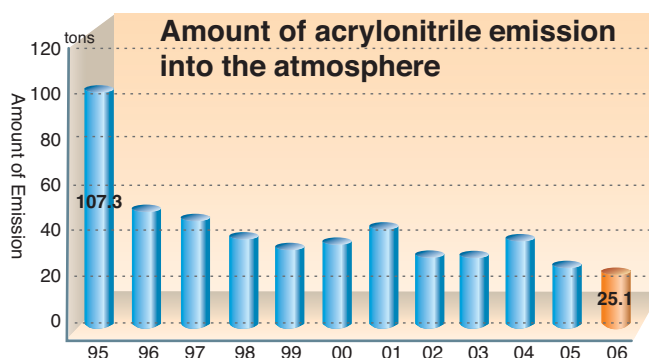
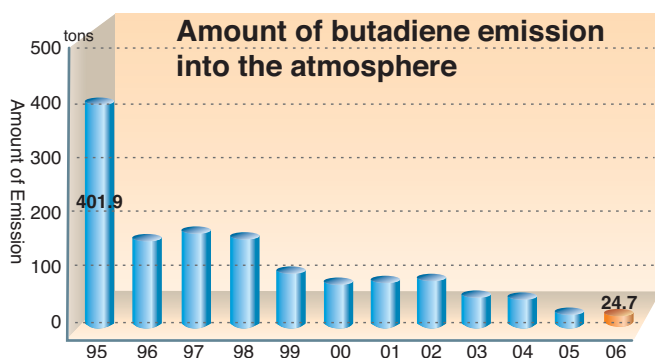
Through complete combustion in the Tokuyama Plant boiler, butadiene emissions have been reduced from 56 tons in 2003 to 19.8 tons in 2004.

Meanwhile, the synthetic rubber manufacturing line at Tokuyama Plant will be upgraded during 2007 to completely eliminate emissions from the monomer recovery process.

At the Kawasaki Plant, the new exhaust combustion facilities installed in 2005, was only able to operate on a trial basis during 2006 due to the need for equipment modifications.

It is hoped that the exhaust combustion facilities will be fully operational during 2007.

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

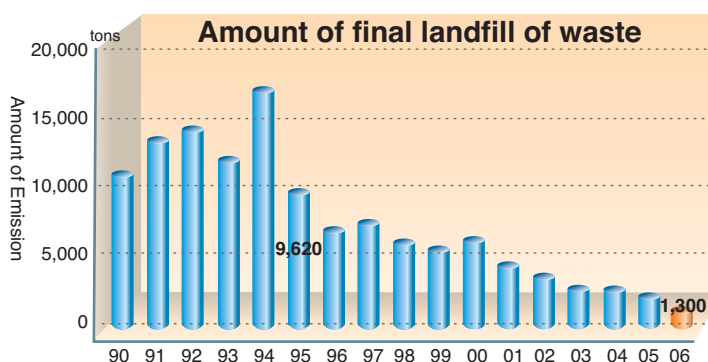
We are making efforts to reduce the amount of industrial waste generated in each stage of the production process, and the effects of reduction can be clearly observed.

The amount of industrial waste for external final landfill disposal reduced by approximately 841 tons in 2006 over the previous year.

In particular, improved product sorting and recycling procedures at Takaoka Plant saw a reduction of 300 tons in landfill disposal.

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

We are continuing our company-wide 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 emission has been improved by the changeover of the Tokuyama Plant boiler to a NOx oxide burner in 2003.

The Tokuyama Plant generates relatively high emissions of SOx, and regular analysis of emission gases (conducted six times per year) has shown significant fluctuations in emission levels.

Since the sulfur level in heavy oil tends to remain fairly constant from year to year, SOx observations at Tokuyama Plant are now calculated on the basis of sulfur levels in input materials. Data since 2002 has been modified in accordance with this approach, which delivers greater consistency in measurement results.

Total waste water output has risen slightly, in spite of various recycling and recirculation initiatives, due to

an increase in production capacity.

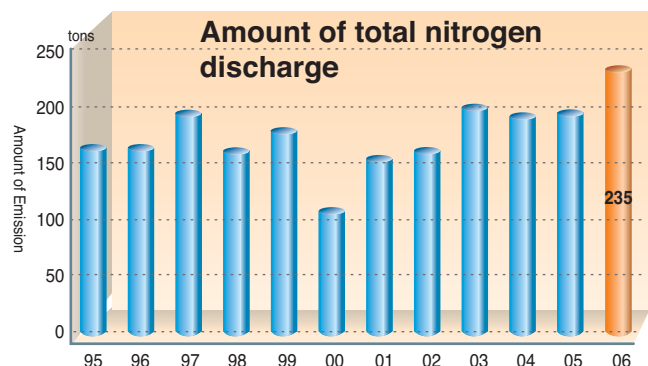
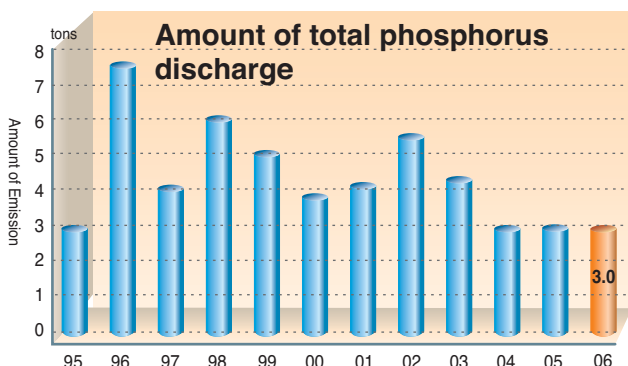
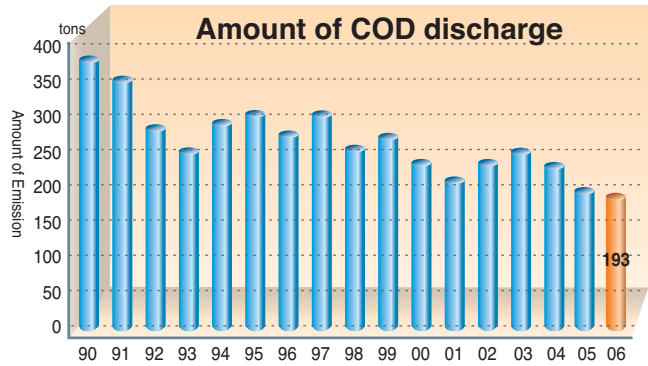
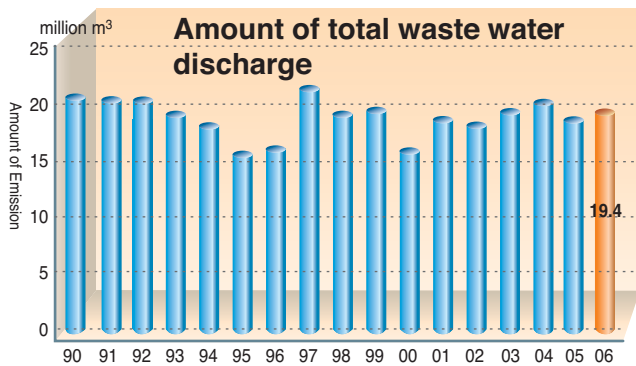
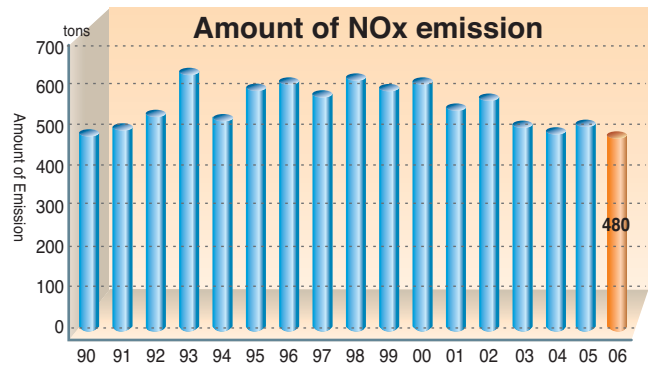
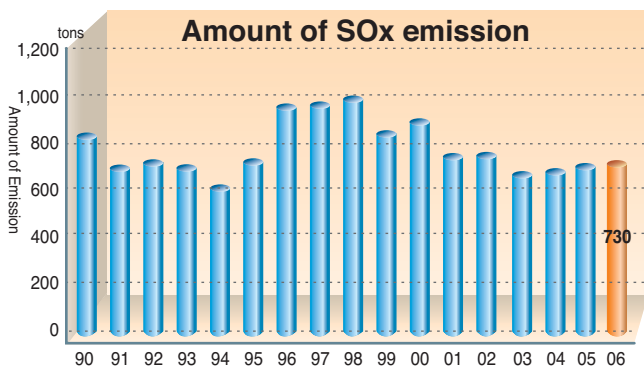
Waste water quality continues to meet the requirements of the Clean Water Act Law and agreements with local governments.

The 6th Total Volume Control pollutant regulations include phosphorus and nitrogen targets for 2009.

To this end, We are busy working on new treatment techniques and equipment modifications.

At the Kawasaki Plant, total nitrogen levels in exhaust gases are rising, a direct result of increased production of products such as NBR (acrylonitrile and butadiene rubber) associated with high output of waste water by-products.

The nitrogen removal rate at the Kawasaki Plant has improved significantly with the installation of new nitrogen removal equipment in March 2007.



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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 2006, the cogeneration power facility in the Kawasaki plant was modernized to improve its power generation efficiency.

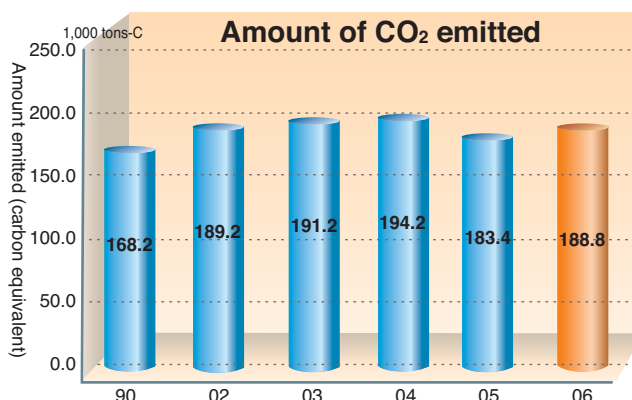
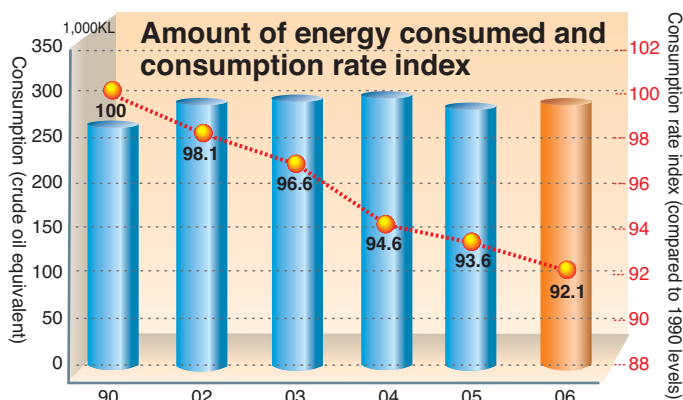
At Mizushima Plant, we are working to boost productivity in resin manufacturing and improve the efficiency of the monomer extraction distillation process to minimize steam consumption.

The power conversion coefficient used to calculate

crude oil conversion ratios was revised in 2006 together with the unit consumption index.

As a result, the energy consumption rate index (compared to 1990) has been improved to 92.1% through those energy saving activities, approaching the 2010 goal of 90%.

CO<sub>2</sub> emissions are calculated retrospectively to 1990, based on the Law Concerning the Promotion of Measures to Combat Global Warming.



## Energy consumption associated with transportation

Under amendments to the Energy Conservation Law, responsibility for development and implementation of energy-saving strategies rests with the party responsible for transportation of goods (i.e., the consignor).

A company with an annual freight volume of 30 million ton-kiloliter or more is defined as a designated major consignor under the amended Law and is

subject to additional requirements.

The Ministry of Economy, Trade and Industry formally declared ZEON a designated major consignor on June 14, 2007, on the basis of total freight shipping volumes (including the four production plants and the R&D Center).

We will continue in the future to do our very best to conserve energy in distribution process as well as in production process.

### Energy-saving topics

At the Mizushima industrial complex precinct, Asahi Kasei Chemicals, ZEON and Nippon Petroleum Refining (the refining arm of ENEOS) have started work on a joint program to save energy by recycling petroleum residue.

In December 2006, the New Energy and Industrial Technology Development Organization (NEDO) nominated a joint project between Asahi Kasei Chemicals and ZEON involving construction of a boiler fuelled by petroleum residues for the "2006 NEDO Energy Conservation Project Support scheme".

Under the project, Nippon Petroleum Refining will

build a new solvent de-asphalting line at the Mizushima Refinery for extracting kerosene and light oil from asphalt and other heavy oil distillates.

The petroleum residue (or pitch) generated during the extraction process will be used as fuel for new boilers to be built by Asahi Kasei Chemicals and ZEON.

This will reduce overall consumption of heavy oils and enable significant energy savings.

It is estimated that the total energy saving across the entire industrial complex will be equivalent to 98,000 kl of crude oil. Commercial operation is due to commence in July 2009.

# 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

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## Environmental Countermeasure for Logistics

### 1. Using metal containers to pack synthetic rubber products.

We had previously used wooden boxes to pack synthetic rubber, but to help protect the world's

forests, we decided to change to metal box pallets.

Metal crates have already been introduced for export products, while the phase-out of wooden boxes in domestic distribution has been in progress since 2005 and is currently around 80% complete as of 2007.



Domestic Wooden Box Pallet



Domestic Metal Box Pallet

### 2. Amendments to the Energy Conservation Law

As a designated major consignor, ZEON is committed to efficiency improvements designed to minimize energy consumption.

ZEON has introduced a variety of strategies in this

area, including methodologies for collection of performance data, a modal shift towards railway and marine transport, higher loading ratios and an idling stop campaign to encourage truck drivers.



2006 Modal Shift award

# 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

### Responsible Care Audit

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

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

### PL Audits

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



Plant Responsible Care audit (Mizushima Plant)



RC audit inspection (Mizushima Plant)

### Plant Technology Audit

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

### 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.



Affiliate Safety Inspection

## 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.

### Environment ISO internal 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 a two day head office Group Leader Central Training program for the plants “Production & Maintenance Management” and “Production & Maintenance Supervisor” groups.

Group Leader Centeal Training for the plants has formed a core element of ZEON's safety management. Since 2004, the participants have been trained by the Head Officer Management with the contents set with the agreement of both the production and maintenance 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 studies of accidents and workplace injuries at ZEON.



Production Group  
Head Office Training

The Safety Environmental Affairs Department also provides executives from affiliated companies with annual training designed to promote awareness of safety issues.

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.

Since 2003 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.

A presentation held in 2006 on multi-faceted investigation using the m-shell analysis model to identify the “Causes of Serious Workplace Accidents” involving human error was particularly well received, and will be repeated in 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 2006 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 Tokuyama Plant

# Environmental 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 2006 for pollution prevention was the installation of new aeration tanks at the Kawasaki Plant to reduce Total Nitrogen (T-N) and COD levels in waste water.

Although the ratio of input materials (including nitrogen) to finished product is rising and T-N increased in 2006, this trend is expected to turn around during 2007.

The Kawasaki Plant budgeted in 2005 for an upgrade to its new industrial waste facility, which was constructed in 2006. It began operating in 2007 to reduce environmental odors.

A new carbonization gas furnace - the first in the Kawasaki municipality - incinerates waste products by converting them to gas form. This process generates far lower atmospheric emissions of carbon monoxide, nitrogen oxide, sulfur oxide and dioxins compared to conventional incineration.

The new facility does not offer any major increase in waste treatment capacity; however it will reduce toxicity concentrations by a factor of ten and cut emission gases by 60%.

The Tokuyama Plant has made an additional investment in replacing wooden STEC (synthetic rubber packing cases) with recyclable metal equivalents to reduce the overall environmental impact of packaging.

As a concrete example of the energy saving efforts, the cogeneration power facility in the Kawasaki plant

was modernized to improve its power generation efficiency.

At Mizushima Plant, we are working to boost productivity in resin manufacturing and improve the efficiency of the monomer extractive distillation process to minimize overall steam consumption.

#### Environmental Protection Costs

We are developing technology for minimizing waste water, 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 waste water, such as T-N and COD.

Since 2003, we have not recorded in the accounts the investments or costs for developing products that contribute to environment protection, but in 2006 the research and development expenditures was 730 million 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 CSR Report to provide our overseas customers with information.

Affiliates concentrates on maintenance and improvement activities to renew or construct their own environment management systems.

### 2006 Environment Accounting Sheet

Environment Protection Costs (Million Yen)		ZEON Only		Including Affiliates	
Classification		Investment Amount	Expenses	Investment Amount	Expenses
1. Costs within the business area		688.7	2,362.8	750.7	2,452.2
Breakdown	(1) Pollution prevention costs	521.3	1,719.5	566.9	1,776.8
	(2) Global environment protection costs	120.1	238.1	136.4	242.7
	(3) Resource recycling costs	47.3	405.2	47.4	432.7
2. Upstream and downstream costs		64.3	4.8	64.3	4.8
3. Management activity costs		18.0	119.7	20.7	133.2
4. Research and development costs		122.0	733.9	122.0	735.9
5. Social activity costs		0.0	39.4	0.1	40.2
6. Environmental damage handling costs		0.0	109.0	0.0	109.0
Total		893.0	3,369.6	957.9	3,475.3

Item	Amount (Million Yen)	
	ZEON Only	Including Affiliates
Total investment amount within applicable period	25,947	26,370
Total research and development costs within applicable period	11,543	11,769

#### Accounting Range

ZEON Only:  
ZEON 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, 2006 to March 31, 2007



## Environmental Protection Effects

### Physical Effects

With regard to the environmental atmosphere protection NOx emission has been improved and steadily declining since converting the Tokuyama Plant boiler to a low-NOx burner in 2003.

Waste water quality continues to meet the requirements of the Clean Water Act and agreements with local governments.

The 6<sup>th</sup> regulation on total waste water discharge advances with new phosphorus and nitrogen targets for 2009.

ZEON is busy developing new treatment techniques and equipment modifications geared towards obtaining these targets.

At the Kawasaki Plant the T-N (Total Nitrogen) level in waste water has increased as a result of increased

production of NBR (Acrylonitrile and Butadiene Rubber) and other products that generate a high output of waste water by-products.

The nitrogen removal rate at the Kawasaki Plant has improved significantly following the installation of new nitrogen removal equipment which was started in March 2007.

The amount of industrial waste for external final landfill disposal was reduced by approximately 841 tons in 2006 from the previous year.

In particular, improved product sorting and recycling procedures at the Takaoka Plant saw a 300 ton reduction in total landfill disposal.

Regarding the PRTR (VOC) emission objective, the reduction of acrylonitrile and butadiene emissions did not advance.

So the investment for continues improvement is now planned for following the fiscal year 2007 and it is expected to control the exhaust below 1 ton each respectively by year 2010.

Effects of Environmental Preservation	ZEON Only	Comparison index	Including affiliates	Comparison index
Description of effects	Environmental burden goal	Compared to previous year	Environmental burden goal	Compared to previous year
SOx emissions (tons)	730	12	731	12
NOx emissions (tons)	480	▲21	481	▲21
COD emissions (tons)	193	▲2	193	▲2
CO <sub>2</sub> emissions (amount of carbon) (tons)	188,789	5,343	191,763	5,293
Amount of final landfill of industrial waste (tons)	1,300	▲839	1,768	▲665
Total emission of PRTR applicable substances (tons)	68	2	75	▲4

### Accounting Range

ZEON Only:  
ZEON 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, 2006 to March 31, 2007

### 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.

The stated economic benefit is limited to that which can be demonstrably verified in cash terms.

Industrial waste treatment costs are continuing to be reduced as a result of our efforts in reducing losses in the production process, 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.

Productivity enhancements in functional resin production have improved unit energy consumption, while unit manufacturing costs have also fallen.

Cost reduction through catalyst recovery/reuse is continuing and a result of approximately 480 million yen can be seen.

Economic effects associated with environmental preservation measures (million yen)	ZEON Only	Including affiliates
Description of effects		
Cost effect achieved through reclaiming and utilization as fuel	1,028.5	1,032.0
Cost reduction through energy saving	170.2	173.2
Reduction of industrial waste treatment cost	2.3	9.7
Cost reduction through reduction and recovery/reuse of solvent and catalyst	483.1	492.9
Total	1,684.1	1,707.8

### Accounting Range

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

Affiliates:  
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Period Covered  
April 1, 2006 to March 31, 2007

# Environmental Economic Perspective

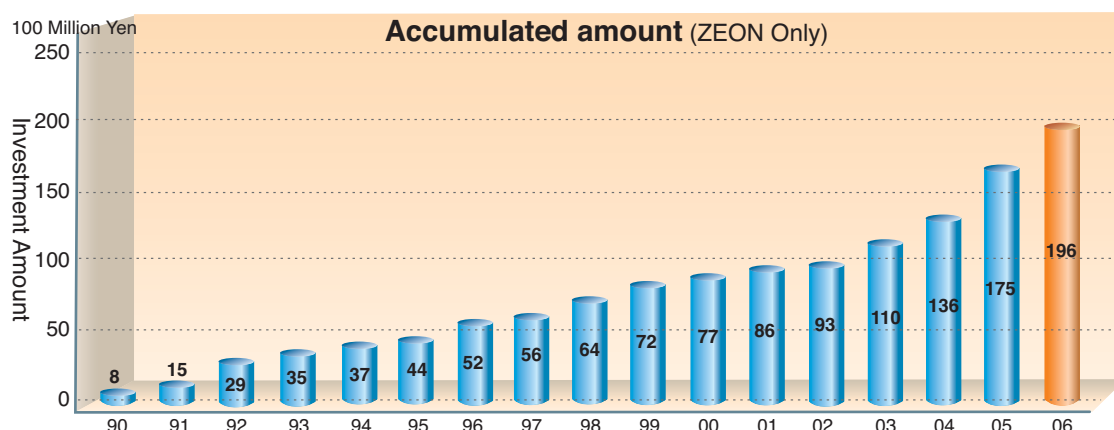
## About Environment and Safety Investment

Not only are we 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 investment has been on upgrading fire

detectors and fire protection equipment and duplicating leak detectors and other detection devices in order to provide a comprehensive early warning system.

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 area.



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

### Environment and Safety Investment Amount

2006 Investment Amount (100 Million Yen)	ZEON Only	Affiliates	Grand Total
Environment-related	8.93	0.24	9.17
Safety-related	12.54	0.52	13.06
<b>Total</b>	<b>21.47</b>	<b>0.76</b>	<b>22.23</b>

### Accounting Range

**ZEON Only:**  
ZEON 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, 2006 to March 31, 2007

# 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 technologies that are “original and without comparison” and “inimitable” 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.

## 2006 Environment and Safety Activity Policy

- (1) Promoting awareness of the importance of safe and stable production technology
- (2) Restructure the research facilities so that safety and environment protection 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

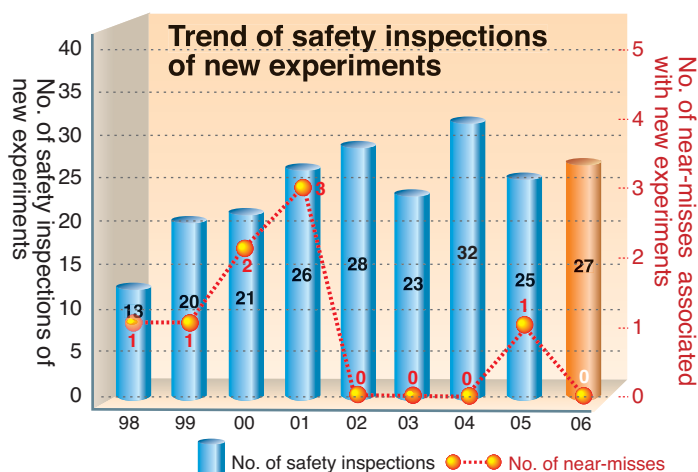
## Environment and Safety Activities

The R&D Center concentrated on the following activities in line with the 2006 Environment and Safety Policy.

### Safety Inspections for New Experiments

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 prior risk assessments and danger evaluation with respect to equipment, procedures and handling of chemicals and other substances 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.

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

General Manager, R&D Center  
Tadao Natsume (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. We perform inspections every year to make sure that the externally contracted work is being processed correctly.

### Environment and Safety Training and Chemical Safety Training

Environment and safety training consists of a combination of classroom-style sessions run by the Environment and Safety Office along with OJT (On the Job Training) in the workplace.

The training program for new and transferred personnel has been expanding since 2002, with the happy result that the last few years have seen zero workplace accidents involving new and transferred personnel.

In 2006 there were four workplace accidents involving middle-ranking researchers with around ten years' experience. Although none of the accidents

resulted in the employee taking leave, the safety training program for middle-ranking researchers has been upgraded in response to this situation. The priority areas for the current financial year are described below.

### Environment and safety training programs

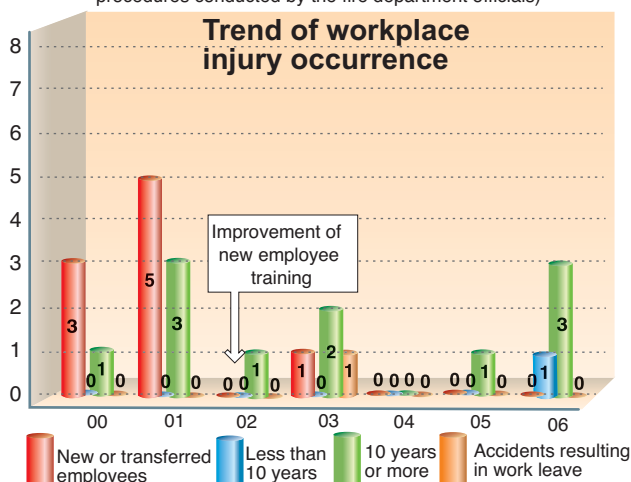
1. New employee training (for all employees who joined the company in 2006)
  - (1) Safety knowledge and practical skill training once every month (total of 10 times)
  - (2) "Train the trainer" for OJT instructors of new recruits and recently transferred employees
  - (3) New recruit training based on facility-specific training programs
2. Level-specific safety training for middle-ranking researchers
  - (1) Safety training by organizational layer (for newly promoted employees and research leaders)
  - (2) Hands-on safety training for middle-ranking researchers (out-sourced)
3. Full workforce training
  - (1) Safe and stable production technology training performed by the head of the Environment and Safety Section at the plant (for all employees)
  - (2) Reviews of past workplace accidents by experienced former plant managers
  - (3) Safety training based on the Workplace Injury Elimination Campaign (for all employees)

### Chemical Safety Training

1. Chemical classification and labeling regulations and internal handling procedures
2. Chemical substance regulations and safety management (for all employees)
3. Chemical substance safety training (for newly promoted employees and research leaders)



New Employee Training ( emergency response procedures conducted by the fire department officials)



Accidents not resulting in work leave



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

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# Takaoka Plant

The Takaoka Plant was established in 1956 as a plant for PVC production. 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 in 2005. 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 are expanding our facilities for further reduction of emissions of un-reacted vinyl chloride monomer and organic solvents.

We are making efforts to improve recovery and recycling rate of organic solvents used in manufacturing through upgrading facilities.

### (2) Reducing industrial waste

Around 80% of industrial waste is excess sludge from waste water treatment facilities.

Resins in the sludge can be separated out for recycling, thereby reducing the volume of waste sent to landfill.

De-watering processing equipment will be set up in 2007, and further equipment modifications are continuing.

We are recycling glass and converting waste oil to fuel in conjunction with waste disposal contractors.

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

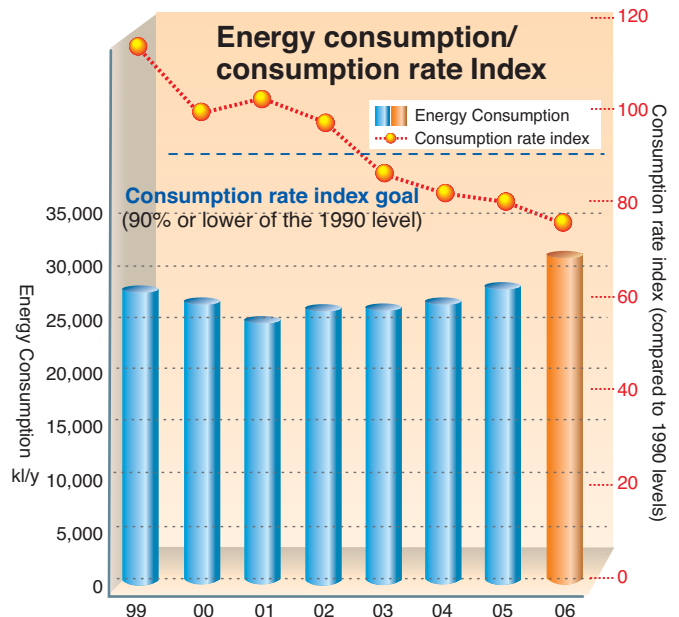
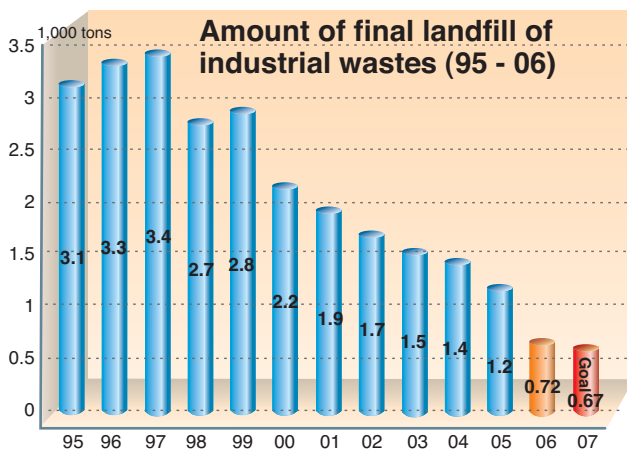
Operational modifications to the boilers in line with steam consumption within the plant have helped to smooth out fluctuations in emission levels of atmospheric pollutants.

We use a range of measure to combat emissions of polluting substances into waterways, including stable operation of waste water treatment facilities and crisis management involving detection systems to prevent accidental emission incidents.

### (4) Resource and energy saving

We are committed to reducing specific energy consumption to below 90% from 1990 levels by the year 2010, in line with the Kyoto Protocol targets.

Although the 90% target was successfully achieved in 2003, we continue to promote operational management programs and strive for further reductions through the use of automated production technology.



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

General Manager, Takaoka Plant  
Yoshio Umezawa (Corporate Officer)

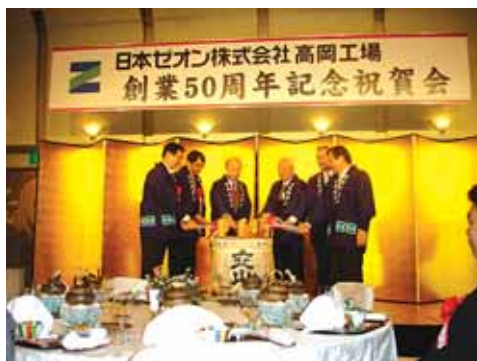


## Living Together with the Local Community

### (1) 50th anniversary of the Takaoka Plant

A ceremony to commemorate the 50th anniversary of the Takaoka Plant, held on October 13, 2006 was attended by distinguished guests from all levels of government (including neighboring local governments) and members of parliament and their associates.

After a speech from former Chairman Nakano representing the Company, the celebrations kicked off with a traditional barrel-opening ceremony featuring the governor of Toyama prefecture, the mayors of Takaoka and Himi cities and company representatives.



50th anniversary of Takaoka Plant

### (2) Local community participation in the ZEON Dainoryo (Large Summer) Festival

The ZEON Dainoryo Festival was held on July 29, 2006 in the parking lot in front of the Takaoka Plant.

The festival attracted visitors from neighboring local government precincts, including many children, and was a resounding success.



ZEON Dainoryo Festival

### (3) Clean-up activities in conjunction with local government

On May 30 ("Zero Trash Day") 2007, employees from the Takaoka Plant took part in a clean-up campaign in the general vicinity of the Plant together with the local residents' association. Activities included clearing the roads of rubbish, collecting empty cans and removing weeds.

\* Amount of carbon converted  
\*\* Totals for vinyl chloride monomer and PRTR Law listed substances were modified in 2004 to show consumption and emissions for ZEON Corporation only (production subcontractor Shin Dai-ichi Vinyl Co., Ltd. not included)

### Environmental Related Data from the Takaoka Plant

	Year	99	00	01	02	03	04	05	06
Vinyl chloride monomer**	Amount of consumption (tons)	47,000	44,000	45,200	41,600	40,300	785	656	777
	Amount of emissions (tons)	68	88	53	40	40	1	1	1
PRTR applicable substances**	Amount of consumption (tons)	49,247	46,146	47,145	42,338	42,575	1,439	1,312	1,405
	Amount of emissions (tons)	106	127	96	83	85	4	4	5
Industrial waste	Amount of production (tons)	11,294	7,904	7,569	6,068	5,255	5,143	4,358	3,536
	Amount of final landfill (tons)	2,811	2,176	1,909	1,692	1,497	1,437	1,114	895
Emission into the Atmosphere	Amount of CO <sub>2</sub> emissions (tons-C*)	18,388	17,811	16,772	17,494	16,856	17,760	17,567	17,638
	Amount of SO <sub>x</sub> emissions (tons)	55	39	22	30	53	41	33	51
	Amount of NO <sub>x</sub> emissions (tons)	56	59	47	56	70	69	31	50
Waste water	Total effluent waste water discharge (thousand m <sup>3</sup> )	6,131	5,545	6,158	6,464	6,649	6,441	5,901	6,587
	Amount of COD emission (tons)	50	57	36	35	46	29	31	33
	Amount of total phosphorus discharge (tons)	3	2	2	4	3	1	1	1
	Amount of total nitrogen discharge (tons)	24	5	5	7	25	15	15	16
Energy	Total amount (crude oil equivalent, kl)	27,841	27,139	24,897	26,462	26,341	27,494	28,692	31,417
	Consumption rate index (1990 = 100)	114	101	106	98	90	83	80	75

# Kawasaki Plant

a special synthetic rubber. This plant is in the Greater Tokyo metropolitan area and so has had the opportunity to continuously perform Responsible Care activities. The Plant is committed to ongoing investment in air and water pollution countermeasures and associated technological improvements, particularly with respect to reducing toxic chemical emissions and industrial waste output from manufacturing processes. We continuing to develop such technology with the objective of creating a plant that is as environmentally friendly as possible in 2007.

## 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, to 8.5tons.

The conversion to closed process methods helped to boost the processing capacity of the combustion system in 2006.

It is expected that butadiene consumption will drop to approximately 4 tons in 2007.

The new acrylonitrile recovery process began operation in 2005.

The recovery process underwent modifications during 2006 to improve the utilization rate.

Acrylonitrile consumption is expected to drop from 24 to 16 tons in 2007.

New technologies currently in development will reduce butadiene and acrylonitrile consumption still further.

### (2)Reduction of Industrial Waste

The Plant separates all its waste for collection and is working towards greater reuse of resources (recycling and heat recovery).

2006 saw landfill disposal decreased from 520 to 190 tons, due mainly to a systematic program designed to enable incineration of waste water treatment sludge at the plants.

The new incinerator facility was completed in May 2007.

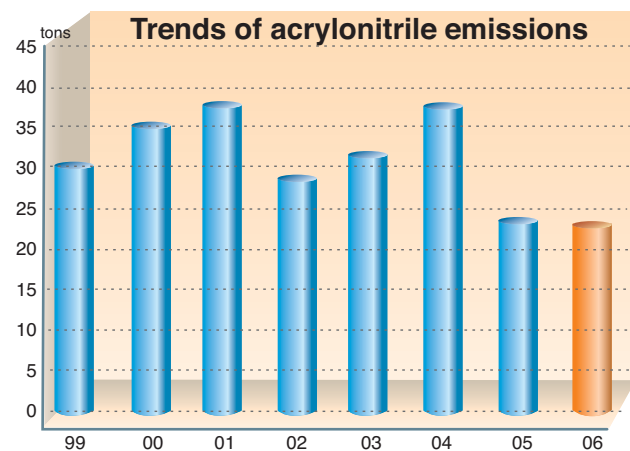
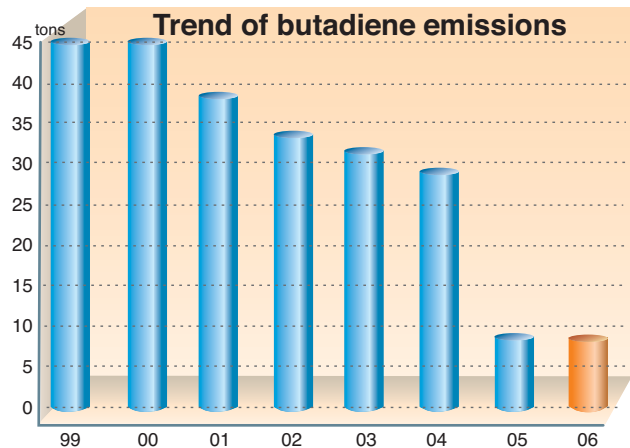
With the new incinerator reaching full operation, landfill volumes are expected to decrease further.

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

2007 will see the new incinerator reach full operating capacity as part of a program to reduce atmospheric emissions of NOx, carbon monoxide and soot.

The Plant is also continuing to reduce total nitrogen from the discharge effluent water as a countermeasure for reducing the environmental burden on water.

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



More waste water treatment tanks were added in 2006.

An analysis of current operating conditions identified a potential improvement in the total nitrogen removal rate from 30% to at least 50% via the use of improved technology. Further optimization of operating conditions will be undertaken in 2007.



Incinerator under construction



Treatment tanks



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 (Corporate Officer)



#### (4) Resource and Energy Conservation

The target for unit energy consumption is a 10% reduction relative to the 1990 level to be achieved by 2010.

A new gas engine introduced as part of the co-generation facility upgrade in 2005 formally commenced operation in 2006, and operational efficiency is on the increase according to plan.

Meanwhile, the introduction of environmental equipment and higher levels of energy consumption by non-production departments necessitates further work on reducing unit energy consumption and cutting carbon dioxide emissions.

#### 2006 Topics

- (1) New treatment tanks were added to the waste water treatment facility in February 2007 to reduce total nitrogen levels.
- (2) The addition of a new low-emission incinerator in conjunction with the incinerator upgrade was approved by the City of Kawasaki. The new incinerator was built between December 2006 and May 2007.



Foreign visitors on factory inspection tour



Clean-up of factory area

#### 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.

The Kawasaki Plant actively pursues interaction with the wider community by hosting a large number of domestic and foreign students and inviting representatives from neighboring companies and neighborhood association committees to key events at the Plant.

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 the plant.

#### Environmental Related Data from the Kawasaki Plant

\*:Amount of carbon converted

	Year	99	00	01	02	03	04	05	06
<b>Harmful substances</b>	Amount of butadiene consumption (tons)	31,509	30,649	29,058	27,335	29,876	30,726	29,694	28,278
	Amount of butadiene emission (tons)	45	45	39	34	32	29	8	9
	Amount of acrylonitrile consumption (tons)	10,886	10,837	11,257	10,937	12,336	12,953	12,345	12,446
	Amount of acrylonitrile emission (tons)	31	36	38	29	32	38	24	24
<b>PRTR applicable substances</b>	Amount of consumption (tons)	56,571	63,273	57,429	55,629	59,001	59,530	58,960	56,751
	Amount of emission (tons)	81	89	84	69	70	73	54	56
<b>Industrial Waste</b>	Amount of production (tons)	64,976	52,115	48,606	70,261	63,759	44,758	37,158	47,826
	Amount of final landfill (tons)	168	60	50	230	24	238	520	189
<b>Emission into the Atmosphere</b>	Amount of CO <sub>2</sub> emission (tons-C*)	14,400	13,911	13,356	13,226	13,077	13,077	13,894	11,918
	Amount of SO <sub>x</sub> emission (tons)	1	1	2	1	1	3	1	2
	Amount of NO <sub>x</sub> emission (tons)	31	28	29	29	27	28	18	28
<b>Waste water</b>	Total effluent discharge (1,000m <sup>3</sup> )	1,869	1,942	1,942	1,726	1,825	2,006	1,906	1,988
	Amount of COD emission (tons)	55	49	56	49	57	53	52	55
	Amount of total phosphorus discharge (tons)	0	0	0	1	1	1	1	1
	Amount of total nitrogen discharge (tons)	64	49	70	68	107	107	118	125
<b>Energy</b>	Total amount (crude oil equivalent, kl)	21,890	22,806	21,966	20,911	20,955	20,836	20,490	20,092
	Consumption rate index (1990 = 100)	109	107	108	110	101	99	103	101

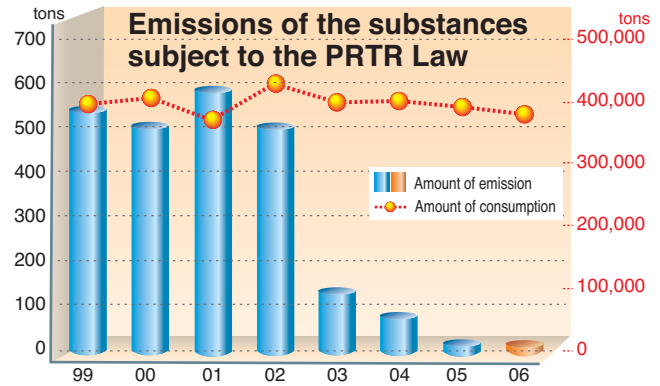
# Tokuyama Plant

The Tokuyama Plant started operations in 1965. 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 we have also made plans to increase production of polymerized toner becoming the first in the world to successfully industrialize this form of toner. Given the close proximity of this Plant to residential areas, we place considerable importance on maintaining a dialogue with the local community. In 2006, we were granted official accreditation for high-pressure gas safety self inspection procedures. The entire workforce at the Plant is committed to creating an environment friendly workplace that is safe and stable and trusted by the local community.

## Environment Safety Activities

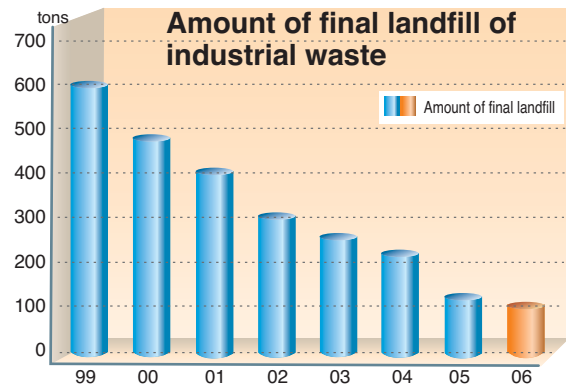
### (1) Reduction of Toxic Chemical Emissions

Atmospheric emissions of toxic substances and substances subject to the PRTR law have been greatly reduced when the full processing of drying gas emissions to the boiler for combustion was achieved. The Plant is committed to performing more activities to further reduce emissions. With the upgrade of the butadiene recovery system completed in June 2007, we have taken a major step towards the eventual target of zero emissions.



### (2) Reduction of Industrial waste

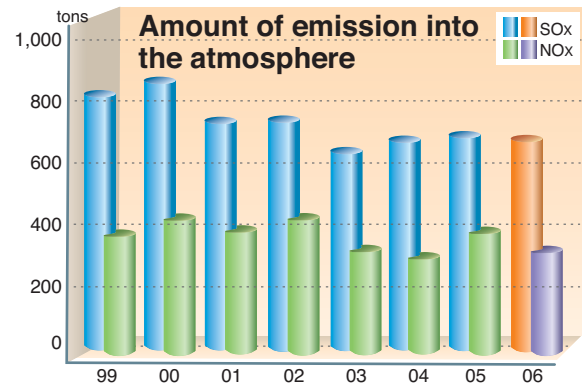
Our ultimate target is to reduce final landfill disposal of industrial waste to 10% of the 1995 figure of 800 tons. This target (80 tons) is defined as zero emissions. In 2006, landfill waste was just 81 tons, thanks to a range of recycling and other initiatives.



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

#### 1) Air

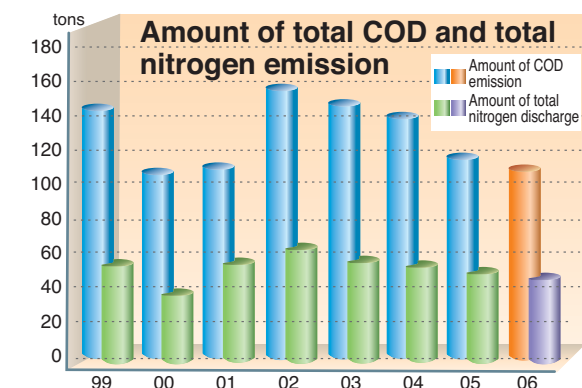
NOx emissions are steadily declining thanks to equipment modifications such as the low-NOx burners installed in the boiler combustion facility. Since 2002, we have been measuring SOx emissions based on sulfur input levels. We will continue to pursue equipment modifications designed to keep emissions at a low level on a consistent basis.



#### 2) 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 waste water treatment and improvements to the processing conditions.



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

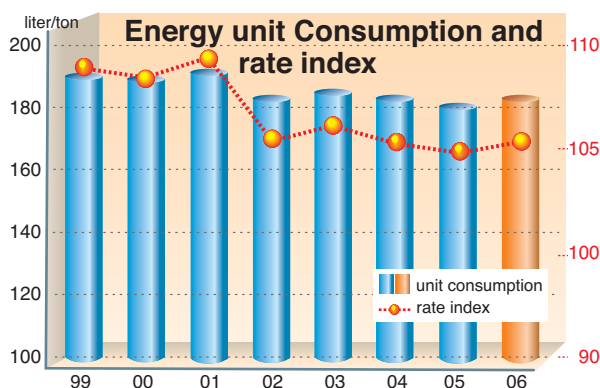


General Manager, Tokuyama Plant  
Hiroshi Asahina (Corporate Officer)



#### (4) Resource and Energy Conservation

The entire workforce at the Plant is working towards the target of a 60% reduction in unit energy consumption relative to 1990 levels. The target has not yet been achieved but we are making steady progress. We remain committed to energy saving activities.



#### Living Together with the Local Community

##### (1) Women's team joins the 29th annual cutter race at the Tokuyama Nonta Festival

The annual cutter race is a common sight at festivals in the region. This year, Tokuyama Plant entered both men's and women's teams in the festival.



Nonta Festival  
Cutter race

##### (2) Fifty employees in a Volunteer Clean-up Campaign on the Higashi-gawa river

Including the plant foreman and several section managers took part in a clean-up the river, which runs adjacent to the Tokuyama Plant. Together with the local community, we helped to clean the river up.



Higashi-gawa river clean-up

#### Environmental Related Data from the Tokuyama Plant

\*Amount of carbon converted

Year		99	00	01	02	03	04	05	06
PRTR applicable substances	Amount of consumption (tons)	397,770	406,473	361,690	432,694	398,557	398,387	395,821	380,312
	Amount of emission (tons)	541	505	577	495	126	67	23	23
Harmful substances	Amount of Butadiene emission (tons)	26	24	35	45	24	19	16	17
	Amount of Acrylonitrile emission (tons)	9	10	4	4	0.7	0.2	0.8	0.6
Industrial Waste	Amount of production (tons)	2,950	3,095	2,676	2,709	2,916	4,042	3,650	5,151
	Amount of final landfill (tons)	603	469	401	295	260	216	134	81
Emission into the Atmosphere	Amount of CO <sub>2</sub> emission (tons-c*)	72,630	75,651	75,632	78,253	73,577	72,834	71,615	70,352
	Amount of SO <sub>x</sub> emission (tons)	823	864	733	731	640	666	684	674
	Amount of NO <sub>x</sub> emission (tons)	372	411	387	423	326	309	384	315
Waste water	Total effluent discharge (1,000m <sup>3</sup> )	8,561	6,725	8,619	8,361	8,904	9,822	8,080	8,293
	Amount of COD discharge (tons)	143	108	110	156	148	138	95	90
	Amount of total phosphorus discharge (tons)	0.7	0.6	0.8	0.3	0.7	0.8	0.8	0.5
	Amount of total nitrogen discharge (tons)	52	38	54	62	54	52	49	46
Energy	Total amount (crude oil equivalent, kl)	97,965	101,560	94,449	106,249	100,057	99,088	96,729	95,281
	Consumption rate index (1990 = 100)	103	103	104	100	100	99	98	100

# Mizushima Plant

developed technology that cannot be imitated by other companies. We respond 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 aromatic chemicals and petroleum resin.

We are committed to pursuing innovative production technology in order to ensure safe and stable production operations and win the confidence of the local community.

## Environment Safety Activities

The 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).



ABC program

### (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 amount of emissions into the air has been zero.

We are dedicated to ongoing development of environmental strategies including measures to reduce VOC emissions.

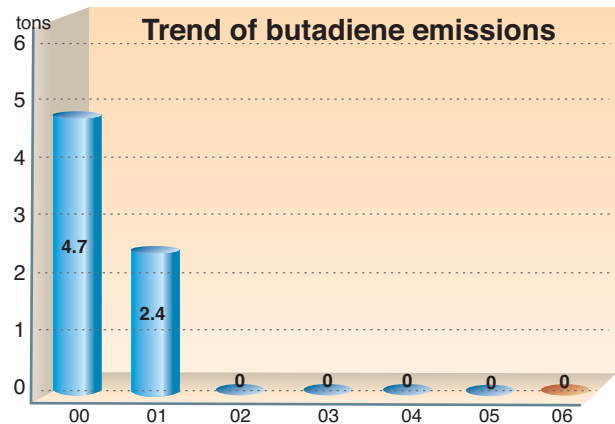
### (2) Reduction of Industrial Waste

ZEON is one of the investors in Mizushima Eco-works\*1, a resource recycling type of waste processing facility. It started operation in 2005, since then the final landfill disposal amount has been dramatically reduced from 1,032 tons in 2005, and to 109 tons in 2006.

We are also promoting the three R's (reduce, reuse and recycle) in a bid to cut industrial waste output further.

\*1 Combined rubbish processing facility that handles both ordinary waste from the Kurashiki municipality and industrial waste from the Mizushima industrial complex. Jointly owned by 10 companies.

The Mizushima Plant was founded in 1968 as a part of the Mizushima Industrial Zone in Kurashiki City. This Plant is a symbol of ZEON. It brings together ZEON's advanced, independently



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

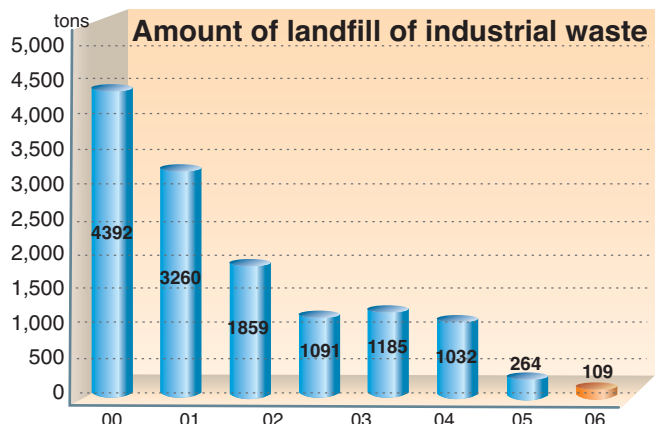
Improved management of waste water generation at individual facilities has helped to minimize load fluctuation at the waste water treatment plant, thereby enabling better treatment of waste water output.

### (4) Resource and Energy Conservation

As a voluntary target, the Plant is working towards reducing its energy use to 90 % of the 1990 level by 2010.

Already we are down to 91.6 %, thanks to initiatives undertaken in 2006.

Unit energy consumption is declining due to a combination of reduced steam usage and heat recovery strategies.



Founded: 1968  
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 and Executive 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.

We are served as regional sponsor for the Okayama region in the Responsible Care Local-Area dialogue Meeting in 2006, which involved factory inspections and walking tours with locals and helped in local

clean-up campaigns in the vicinity of the factory and surrounding areas.

We are nurturing closer integration with the local area through joint public-private-academic sector initiatives such as factory tours of the Mizushima Plant and classroom sessions extolling the importance and fun of science for the benefit of science students at Kurashiki Amagi prefectural high school (a designated Super Science High School<sup>\*2</sup> under the Ministry of Education, Culture, Sports, Science and Technology program) in Okayama prefecture.

These initiatives, which continue in 2007, are designed to stimulate an interest in science and technology among young people.

\*2 A program run by the Ministry of Education, Culture, Sports, Science and Technology which acknowledges schools with a strong focus on science and math subjects, designed to identify and nurture the potential leading scientists of the future.



Factory inspection and walking tour



Super Science High School

## Environmental Related Data from the Mizushima Plant

\*:Amount of carbon converted

	Year	99	00	01	02	03	04	05	06
PRTR applicable substances	Amount of consumption (tons)	516,092	489,028	266,725	303,967	342,931	335,458	336,308	343,930
	Amount of emission (tons)	34	23	7	6	2	1	1	1
Harmful substances	Amount of butadiene consumption (tons)	145,476	146,879	143,583	153,919	163,521	149,435	154,510	154,899
	Amount of butadiene emission (tons)	5.6	4.7	2.4	0	0	0	0	0
Industrial Waste	Before volume reduction (tons)	35,663	57,975	55,821	62,575	56,398	60,975	57,425	57,773
	After volume reduction (tons)	6,623	5,425	5,807	6,256	6,142	8,366	7,217	7,891
	Amount of final landfill (tons)	4,392	3,260	1,859	1,091	1,185	1,032	264	109
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	119,216
	Amount of SO <sub>x</sub> emission (tons)	1.7	0.5	3.3	1.9	3.5	3	1	3
	Amount of NO <sub>x</sub> emission (tons)	134	121	70	58	76	81	68	87
Waste water	Total effluent discharge (1,000m <sup>3</sup> )	3,559	2,148	2,025	1,782	2,021	2,290	2,242	2,559
	Amount of COD emission (tons)	22	15	13	13	13	14	14	15
	Amount of total phosphorus discharge (tons)	1.4	0.6	0.5	0.4	0.5	1.0	0.5	0.7
	Total nitrogen discharge (tons)	40	19	22	23	21	22	13	20
Energy	Total amount (crude oil equivalent, kl)	188,178	138,178	128,654	145,725	154,962	159,927	160,179	175,037
	Consumption rate index (1990 = 100)	101	104	101	97	94	93	93	92

# ZEON Kasei Co.,Ltd

In 1981 the Manufactured Goods Division of the ZEON 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.

## Environmental Protection

### Low NOx boilers

The new factory, completed in January 2007, boasts new environmentally friendly high-efficiency commercial boilers.

The new boilers are more efficient and generate fewer nitrogen oxides. The two cans per two units inter-operation regime uses less heavy oil fuel.



### New roofing on KC plant facility at Ibaraki Plant reduces waste output

The KC plant facility at the Ibaraki Plant was constructed in 1965 with a slate roof.

Some 40 years after completion, the roof was starting to warp and leaks were beginning to appear.

The original plan to completely replace the roof was abandoned, due to the enormous cost as well as concerns about the impact on production processes of foreign matter generated during construction.

It was also felt that the slate tiles would represent a considerable volume of waste when removed.

After considerable research, it was decided to repair the slate roof using a “chemical calcion pack” technique.

The chemical calcion pack was a success on many levels: it restored the strength of the slate roof to the required level as stipulated in JIS standards; it cost three times less than replacing the roof outright; it had minimal effect on the ongoing operations of the KC plant; and the main component of the calcion material provided excellent thermal insulation.

It took just one month to complete the roof repairs.

The photographs show before and after the repairs



Before



One Year after

### Strength improvement data for deteriorated slate (built in 1971; 29 years old)

Base materials	Bend failure load test	Shock resistance test
JIS requirements (1971)	Over 3430N(100%)	120cm
Before	2545N(74%)	100cm
After	3511N(102%)	120cm



Ibaraki Plant Front Gate Sign

## Resource and Energy Saving

### Environmental materials

ZEON Kasei has successfully developed a lead-free compound for use in combined aluminum-resin window sash members.

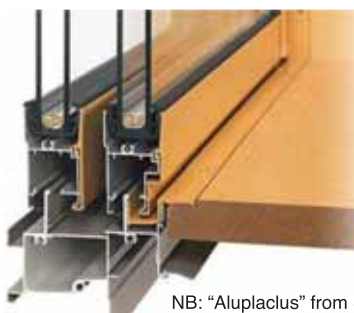
The window sash consists of an aluminum exterior with low thermal conductivity resin on the interior side, combined with double-glazing. It offers vastly superior heat and noise shielding and characteristics compared to the conventional single-layer glass with aluminum sash. It also reduces condensation, thereby helping to extend the life span of the home.

The Environment Ministry has officially acknowledged the environmental credentials of this product in helping to combat global warming by reducing energy consumption and CO<sub>2</sub> emissions, and is promoting its usage in colder regions.

The surface resin material is made from a PVC blend that exhibits good thermal insulation and flame resistance characteristics, is highly durable, and can be shaped and molded readily while holding its dimensions well. Conventional PVC composites used in building materials often employ lead-based stabilizers to improve molding and shaping characteristics.

We have already developed materials such as foam and wood flour for products in the construction materials field. The lead-free sash compound substantially improves molding and shaping performance and constitutes a major step forward in this area.

The sash material has already been adopted by several leading sash manufacturers, creating prospects for further increases in demand.



NB: "Aluplaclus" from Shin Nikkei

## Living Together with the Local Community

### Emergency response drill at the Ibaraki Plant

The entire Ibaraki Plant took part in emergency drills in November 2006 conducted in conjunction with the local Bando Fire Station (part of the Shunan Fire Department).

### Instruction with local high school

Iwainishi Prefectural High School, the only Morality

## Company Profile

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

education model school in Ibaraki Prefecture, is located close to the ZEON Kasei's Ibaraki Plant, and several graduates from the school now work at ZEON Kasei.

Many students from Iwainishi High ride their bicycles to school along the national highway, and ZEON Kasei has donated road safety campaign photographs as a community service.

### Completion of the new functional sheeting factory

Construction of the new functional sheeting factory finished in February 2007. The completion ceremony was attended by the chairman of the Iwai Chamber of Commerce, the head of the Bando Fire Station and the director of the Kuguido swamp reclamation project.

We are committed to maintaining positive and constructive relations with local residents and contributing in a meaningful way to the local area.

## Others

### ISO9001 accreditation

In January 2007, the processed goods production section of the Ibaraki Plant, which had previously been outside the scope of ISO9001, was also accredited, bringing the entire Plant under ISO9001.

A joint accreditation application in conjunction with the head office and the R&D center is planned for February 2008. This will provide a fully integrated quality management system covering production, distribution, technology and research.

### ISO14001 accreditation renewal

The ISO14001 accreditation of head office and the R&D center was renewed in May 2007, while the Ibaraki Plant was inspected for accreditation in September 2006.

# 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's rubber business developments. In 1989 it merged with Higashi Rubber Processing Co., Ltd. and changed its name to ZEON Polymix Co., Ltd.



Kawagoe Plant

Otsu Plant

## Environmental Protection

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 its detailed activities are described in the "Environment Treasure Chest" section of the Otsu City website. As a type two designated energy management factory, we are committed to reducing energy consumption levels.

The photograph shows the beautiful scenery behind the Kawagoe Plant, which has appeared in several films and is a popular spot for meeting and watching spectacular sunsets.

We have built a comprehensive safety, health, environment and quality (SH·E·Q) management system and is continuously striving to improve its SHEQ performance.



Opegawa River and wooden bridge (near Kawagoe Plant)

## Resource and Energy Saving

We are now in the fourth year of an accredited environmental management system (EMS) program. In the three years of the program 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).

Over the next three years, stage two of the Environmental Impact program will see employees working with the local community to make ZEON Polymix a more environmentally conscious business.

The three environmental items :

1. Research and development of products for reducing environmental burdens : 100 % conversion to alternate products
2. Reduction of energy used : 10% reduction relative to 2006

NB: CM = Carbon Master batch  
SHEQMS: Safety, Health, Environment and Quality Management System

## Company Profile

● <b>Name</b>	ZEON Polymix Co., Ltd.
● <b>Established</b>	April 7, 1967
● <b>Capital</b>	240 million yen
● <b>No. of Employees</b>	95
● <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>	Molding CM and synthetic rubber CM (synthetic and natural rubbers blended with carbon black and other chemicals and supplied to manufacturers as processed rubber intermediate goods for the manufacture of auto parts and other molded rubber products)

3. Reduction of industrial waste: 30% reduction in rubber scrap output relative to 2006

## Living Together with the Local Community

Employees from the Otsu and Kawagoe Plants 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 trash.

Otsu Plant also acts as a rest station for the Otsu City Marathon (staged by the Otsu City Athletic Association), providing toilet and indoor facilities for participants.



Clean-up work near the Otsu Plant

## Compliance and Internal Controls System

We prepare for the unexpected by systematically performing natural disaster preparation drills, fire drills, and by training staff to make emergency calls. We are committed to the highest standards of honesty and integrity, as exemplified by the stringent CSR internal control system.



Natural disaster preparation drill (Kawagoe Plant)



# Optes Incorporated

Optes Inc. was established in 1990 as a joint venture between the ZEON 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. 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.



Toyama 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. 2006 saw a 2% improvement compared to 2005.

## Company Profile

- **Name** Optes Incorporated
- **Established** April 2, 1990
- **Capital** 400 million yen
- **No. of Employees** 476
- **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 Toyama Plant
- **Main business** ZEONOR Film®, Light Diffusion Panel, prisms, micro lenses



Various Lenses



Light Diffusion Panel



ZEONOR Film

## Living Together with the Local Community

Both the Sano and Toyama Plants employees help clean up the local environment in the vicinity of their plants to live with local community.

## Evacuation and First Aid Training

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

## Maintaining the Workplace Environment

Some 200 m<sup>2</sup> of the factory rooftop has been given over to plantation in a bid to compensate for the general shortage of natural growth in the area and contribute to the environment.



Natural disaster preparation drill



Rooftop planting at the Toyama Plant

# 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. The opening of ZEON's new research buildings in April 2006 brought an increase in research and development work.



Overview of facility

## Environment Topics

### ISO14001 accreditation

ZEON Chemicals Yonezawa obtained ISO14001 accreditation in June 2006. During the first year, the focus was on reducing output of waste water and other waste liquids generated during manufacturing processes.

### Zero pollution slogan

The zero pollution slogan at ZEON Chemicals Yonezawa, "Naseba Naru" (Can Do), is taken from the famous exhortation of Yozan Uesugi, ninth leader of the Yonezawa feudal clan. "Naseba Naru" inspires the spirit of ZEON Chemicals Yonezawa work force in striving for zero emissions.

### Company Profile

- **Name** ZEON Chemicals Yonezawa Co., Ltd.
- **Established** April 26 1996
- **Capital** 90 million yen
- **No. of Employees** 35
- **Head office** 3-446-13 Hachimanpara, Yonezawa City, Yamagata Prefecture, 992-1128  
Tel: 0238-29-0055 Fax: 0238-29-0053
- **Main business** Leaf alcohol synthetic aromatics, products in the intermediate field between medicine and agriculture, RIM liquid compounds



Zero pollution slogan

## Living Together with the Local Community

### 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, in the absence of snow due to the unusually warm winter, the contribution was a number of smaller lanterns.



Employees and families

Small snow lanterns

### 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.



Flower bed maintenance

# 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 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 ground breaking logistics tool that makes a large contribution to the environment, and has been highly rated by various industries.



Yamaguchi Plant

## Exhibit at 2006 FPD\* Show

The exhibit showcased displays designed for a range of applications including industrial equipment and incar display, as well as transport boxes and the "STEC" (Strong Tight Economical Container) returnable folding container designed by ZEON Logistical Materials.

Our specially designed suspension containers for advanced optical film products offer a stackable, space-saving and cost-effective for transporting film products safely and securely.

\* Flat Panel Display (FPD)



Suspension type container

## Built of No.4 plant

The configuration of production lines has been reoptimized in conjunction with the increase in "STEC" production capacity, including construction of additional final product assembly and product warehouse facilities.

### Design concepts

#### (1) Product quality and environmental considerations

Environmental modifications to buildings include installing low-energy thermal insulation ceiling sheets, introducing low-power strategies and reducing lighting to more appropriate levels.

#### (2) Safety strategies

Forklift safety has been improved through clearer separation between forklift operation areas, product assembly areas and product storage areas.

#### (3) Products and processes

Following an analysis of processes and products across the factory, the layout configuration was

optimized to accommodate increased production of "STEC" in the context of a largescale production to order system.



No. 4 Plant

## Company Profile

● Name	ZEON Logistical Materials, Co., Ltd.
● Established	July 1, 2003
● Capital	100 million yen
● No. of Employees	36
● Head office	1-6-2 Marunouchi, Chiyoda-ku, Tokyo 100-0005 (Shin-Marunouchi Center Building) TEL: 03-5208-5167 FAX: 03-5208-5296
● Locations	Yamaguchi Plant and Shunan Plant
● Main business	Design, production, distribution and collection of STECs folding returnable container products, maintenance of containers.

## Development and Marketing of New Product

### Development and marketing of parison product storage solutions and returnable container products

The returnable container designed by ZEON Logistical Materials is (1)lightweight, (2)low-cost, (3)environmentally-friendly, (4)easy to use, (5)durable and (6)designed to withstand compression. It weighs 25% less than conventional containers, requires less resources to produce, and can be folded up when not in use.



Low-Resource Saving Resource type container



# RIMTEC Corporation

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



Overview of offices

## 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.

## Main Applications for Reaction Injection Molded Products

RIMTEC has launched a series of products made from newly developed high-rigidity compounds.



Combined Septic Tanks  
(Effective in Reducing Water Burdens)



Truck Air Deflectors (Lightweight Structure Improves Vehicle Fuel Economy)

## Company Profile

● <b>Name</b>	RIMTEC Corporation
● <b>Established</b>	August 1, 2003
● <b>Capital</b>	490 million yen
● <b>No. of Employees</b>	29
● <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>Location</b>	Mizushima Plant
● <b>Main business</b>	Liquid compounds for reaction injection molding (RIM) with dicyclopentadiene as the main raw material and RIM liquid compounds.

## Environment Topics

RIMTEC is looking to phase out conventional FRP (Fiberglass Reinforced Plastic) products in favor of the new rigid compound products.



Pool panels

## Living Together with the Local Community

- Cherry-blossom viewing with affiliate employees and their families (April)
- Cleaning the Takashima Harbor Road (May)
- Summer Festival (ZEON Mizushima Summer Festival member) (August)

## Other CSR Activities

- Passed the regular ISO 9001:2000 inspection (September 2006)
- Passed the regular ISO 14001:2004 inspection (October 2005)
- Exhibit at the Lyon Pool Show (Piscine 2006), Franc (November 2006)

# ZEON Environmental Materials Co., Ltd.

ZEON Environmental Materials Co., Ltd. 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.

In September 2004, ZEON Environmental Materials expanded into the sale and installation of purification septic tank systems and associated peripheral products, in a move designed to strengthen the organization and provide a more extensive range of services.

## 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 of returning water is to recycle the clear water of the local community, water retention in rivers, and to maintain the cleanliness of rivers and nature.
- It takes 2,000 tons of water to produce one ton of grain. The purification septic tank system contributes to healthy water circulation in the environment.
- Nitrogen and phosphorus eutrophication of closed waterways such as swamps, lakes, harbors and inlets has become a major issue in recent years. The “PENTAM®” home septic system is helping to tackle the problem with advanced nitrogen and phosphorus removal technology.

## Living Together with the Local Community

- We joined forces with the ZEON's Mizushima Plant to participate in a local clean-up campaign.
- Following the success of Green Day 2006 the previous year, on April 21, 2007, the “Green Day 2007” Executive 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 waste water purification, we



Green Day 2007 venue

## Company Profile

● <b>Name</b>	ZEON Environmental Materials Co., Ltd.
● <b>Established</b>	September 1, 2004
● <b>Capital</b>	95 million yen
● <b>No. of Employees</b>	28
● <b>Head office</b>	2767-22 Aza Niihama, Shionasu, Kojima, Kurashiki City, Okayama Prefecture 711-0934 (Inside the ZEON's No. 2 Mizushima Plant) TEL: 086-470-3711 FAX: 086-470-3722
● <b>Location</b>	Fukushima, Yonezawa, Osaka, Wakayama, Kurashiki, Okayama, Shikoku, Yamaguchi, Fukuoka, Kagoshima
● <b>Main business</b>	Combined Septic Tanks

participated by exhibiting our “PENTAM®” purification septic tanks. .

## Others

- This Plant assembly facilities work to enhance safety levels in conjunction with local Mizushima external contractors.
- We are working with subcontractors to instill the principle of the 5 S's as the fundamental prerequisite for safety, along with workplace improvement programs, KYT (Kiken Yochi Training), and near-miss prevention strategies.
- The purification tank assembly plant is aiming for the highest safety and efficiency standards in Japan.

# 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 ZEON, 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.



ISO Promotional Conference

## Environmental Protection

We started operation of an environmental management system in April 2006, promoting activities such as those for strengthening its response to regulation of chemical substances and for advancing the sale of environment-conscious products, with the result that the company gained ISO14001 certification in December 2006 (registration number JQA-EM5592).

## Compliance and Internal Controls

We introduced monthly meetings of the Risk Management and Compliance Committees in fiscal 2006 along with tackling the following issues.

### (1) Management of chemical substances

With the amendment of the Occupational Safety and Health Act as it relates to the GHS (Globally Harmonized System of Classification and Labeling of Chemicals), we have trained all employees and have pushed the revision of labels and MSDS (Material Safety Data Sheets) based on the amend-ment.

### (2) Establishment of administrative regulations and ensuring familiarity with the regulations

Following on from last year, we have conducted individual training for each position to further

### Company Profile

- **Name** Tokyo Zairyo Co., Ltd.
- **Established** December 1947
- **Capital** 227.6 million yen
- **No. of Employees** 128
- **Head Office** 1-6-2 Marunouchi, Chiyoda-ku, Tokyo 100-0005 (Shin Marunouchi Center Building) TEL: 03-5219-2171 FAX: 03-5219-2201
- **Locations** Nagoya Office, Osaka Office and Okayama Office
- **Representative Office** Vietnam Representative Office
- **Subsidiary** Tokyo Zairyo (U.S.A.) Inc., Tokyo Zairyo (Shanghai) Co., Ltd. and 3 other offices in China, Tokyo Zairyo (Thailand) Co., Ltd. and 3 other offices in South-east Asia
- **Main Business** Trading of various chemicals and products

development of administrative regulations and to ensure that all employees are familiar with new administrative regulations.



Test for Reviewing Emergency Procedures

# 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 is committed to 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.



ZEON Medical Laboratory

## The Laboratory Relocated

We are striving toward enhanced quality, shorter lead times and improved productivity by promoting activities for reforming production.

Meanwhile, the company relocated its medical laboratory from the R&D Center in Kanagawa



Clean Room

### Company Profile

- **Name** ZEON Medical Incorporated
- **Established** May 1, 1989
- **Capital** 400 million yen
- **No. of Employees** 105
- **Head Office** 2-4-1 Shiba Koen, Minato-ku, Tokyo 105-0011 (7th Floor, Shiba Park Building B) TEL: 03-3578-7724 FAX: 03-3578-7749
- **Locations** Takaoka Plant
- **Main Business** Medical equipment

Prefecture to the Takaoka Plant in May 2007 with the aim of integrating research and development with production.

# Environment Related Data

\*Total amount emitted into the air, water and soil  
\*\*Amount of carbon converted

ZEON Kasei Co., Ltd. Ibaraki Plant		2002	2003	2004	2005	2006
PRTR applicable substances	Substance number	5	5	3	3	2
	Amount of consumption (tons)	442	237	179	114	88
	Amount emitted* (tons)	49	30	16	13	7
Industrial waste	Amount of production (tons)	244	410	387	426	1,057
	Amount of final landfill (tons)	195	322	61	62	190
Amount of CO <sub>2</sub> emitted (tons-C)**		790	1,116	725	935	931
Amount of energy consumed (crude oil equivalent, kl)		1,789	2,470	2,015	2,382	2,334

ZEON Polymix Inc. Ohtsu Plant		2002	2003	2004	2005	2006
PRTR applicable substances	Substance number	5	7	6	6	6
	Amount of consumption (tons)	340	262	214	161	164
	Amount emitted* (tons)	0	0	0	0	0
Industrial waste	Amount of production (tons)	180	190	139	144	186
	Amount of final landfill (tons)	160	182	111	118	120
Amount of CO <sub>2</sub> emitted (tons-C)**		707	720	710	691	668
Amount of energy consumed (crude oil equivalent, kl)		1,800	1,789	1,809	1,800	1,777

ZEON Polymix Inc. Kawagoe Plant		2002	2003	2004	2005	2006
PRTR applicable substances	Substance number	3	6	5	6	6
	Amount of consumption (tons)	148	129	74	50	53
	Amount emitted* (tons)	0	0	0	0	0
Industrial waste	Amount of emission* (tons)	100	102	102	121	129
	Amount of final landfill (tons)	0	0	62	70	84
Amount of CO <sub>2</sub> emitted (tons-C)**		343	320	242	236	247
Amount of energy consumed (crude oil equivalent, kl)		826	904	832	596	635

Optes Inc. Sano Plant		2002	2003	2004	2005	2006
PRTR applicable substances	Substance number	1	1	1	1	1
	Amount of consumption (tons)	0	0	0	0	0
	Amount of emission* (tons)	0	0	0	0	0
Industrial waste	Amount of production (tons)	89	178	112	52	39
	Amount of final landfill (tons)	17	25	28	25	16
Amount of CO <sub>2</sub> emitted (tons-C)**		454	525	519	510	509
Amount of energy consumed (crude oil equivalent, kl)		1,336	1,575	1,531	1,500	1,502

Optes Inc. Toyama Plant		2002	2003	2004	2005	2006
PRTR applicable substances	Substance number	0	0	0	0	0
	Amount of consumption (tons)	0	0	0	0	0
	Amount of emission* (tons)	0	0	0	0	0
Industrial waste	Amount of production (tons)	249	533	997	1,981	840
	Amount of final landfill (tons)	249	259	0	0	0
Amount of CO <sub>2</sub> emitted (tons-C)**		1,377	2,344	4,059	5,821	8,695
Amount of energy consumed (crude oil equivalent, kl)		1,082	1,842	3,261	4,678	6,987

ZEON Chemicals Yonezawa Co., Ltd.		2002	2003	2004	2005	2006
PRTR applicable substances	Substance number	2	4	4	4	4
	Amount of consumption (tons)	5	20	25	24	22
	Amount of emission* (tons)	0	0	0	0	0
Industrial waste	Amount of production (tons)	145	207	258	259	271
	Amount of final landfill (tons)	4	4	8	7	5
Amount of CO <sub>2</sub> emitted (tons-C)**		167	213	262	290	392
Amount of energy consumed (crude oil equivalent, kl)		315	390	511	566	699

ZEON Logistical Materials Co., Ltd.		2002	2003	2004	2005	2006
PRTR applicable substances	Substance number	1	1	1	1	1
	Amount of consumption (tons)	4	1	2	1	1
	Amount of emission* (tons)	2	1	1	1	0
Industrial waste	Amount of production (tons)	61	54	16	6	77
	Amount of final landfill (tons)	60	53	12	0	53
Amount of CO <sub>2</sub> emitted (tons-C)**		37	30	41	47	43
Amount of energy consumed (crude oil equivalent, kl)		92	80	108	122	115

As ZEON's business 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** Manufacture & Sales of Synthetic Rubber

## 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** Manufacture & Sales of Synthetic Rubber

### Environment Topics

Since 2006, ZEON's Kentucky Plant has been required to meet a district regulation known as "STAR"\*. Over the last three years, We have of its own accord reduced atmospheric emissions of butadiene, acrylonitrile and ethyl acrylate from the plant by 20%, and the company is currently striving to further reduce emissions by half to satisfy STAR requirements.

\*An abbreviation of "Strategic Toxic Air Reduction", it is a plan for reducing air pollutants.



Exhaust Flues  
Catalytic  
Combustor

### Living Together with the Local Community

Monthly meetings are held between ZEON's representatives and residents living near the Kentucky Plant as well as owners of small and medium-sized businesses.

This group is endeavoring to improve the quality of life in the surrounding district by representing community opinions and providing advice.

### Environment and Safety Activities

#### Environment Topics

The new European regulation on chemicals REACH came into force in June 2007. In response, we have nominated in-house REACH managers and have started relevant activities.

First of all, we made a list of all the raw materials used in the plant and started laying preparations for preliminary registration by, for example, sending a letter of inquiry to the manufacturer of each raw material asking whether it wished to register for REACH.

The SS (suspended solids) density of the company's industrial waste water discharge exceeds the regulation value, and We have pressing ahead with the introduction of a sand filtration unit as a countermeasure. At present, the test machine has confirmed a reduction, and we are planning to introduce the unit after determining the operating conditions.

#### Resource and Energy Saving

With the year-on-year rise in the unit cost for steam owing to the steep rise in oil prices, we are striving to reduce unit consumption.

We have already started activities for reducing consumption by using a steam flow meter mounted in the drying process to identify products that use significantly more steam than other products and processes that use steam uneconomically. By 2008, we aim to have made a 30% reduction from the 2006 annual consumption.



## 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:+66-3-868-5973~5  
FAX:+66-3-868-5972
- **Main Business** Manufacture & Sales of Petroleum Resin

### Environment and Safety Activities

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

The Health and Safety Committee members perform a safety patrol every month in accordance with the "ZCT Safety Manual". Unfortunately, an accident resulting in work leave occurred in 2006, so as of the end of March 2007, the number of consecutive days without an accident was 238.

#### Natural disaster Preparation

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

#### Establishment of Safety Day

Starting in 2007, February 9th was designated Safety Day and we dispatched a number of employees to ZEON's Mizushima Plant for safety training.



Natural disaster Preparation drill

#### On-site 5S Activities

This year, we implemented two Big Cleaning Days per month in preparation for entrenching 5S activities.

### Living Together with the Local Community

This year we donated a total of 34,000 baht, including a donation of unused personal computers to local schools.

## 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** 111/2 soi Nikom 13, Moo 2 T.Makhamkhoo, Nikompattana Sub-district, Rayong 21180, Thailand  
TEL:+66-2-261-0175  
FAX:+66-2-261-0172
- **Main Business** Manufacture & Sales of Rubber Carbon Master Batch

### Environment and Safety Activities

Safety training is performed regularly by an officially certified on-site Safety Officer and displays are used to explain about safety as a part of the National Safety Week event.

The following 5S activities were carried out:

- 5S plant patrol by the Safety Committee (every month)
- 5S area contest (mutual evaluation performed at each work site 4 times a year)
- Big Cleaning Day (twice a year)



Natural disaster Preparation drill

### Living Together with the Local Community

We participated in a sports festival hosted by the industrial complex where this company is located, deepening its interaction with neighboring businesses.

Our contributions to the community totaled 40,000 baht, which included a donation of stationery and writing materials to neighboring elementary schools and assistance to a care facility for disadvantaged children sponsored by the Thai royal family on Children's Day.



Donation of stationery and writing materials

# Third-party Verification



## 2007 CSR Report Third-party Verification: Statement

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

September 12, 2007

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 2007 CSR Report (henceforth abbreviated to “the report”) that was issued by the ZEON .
- 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

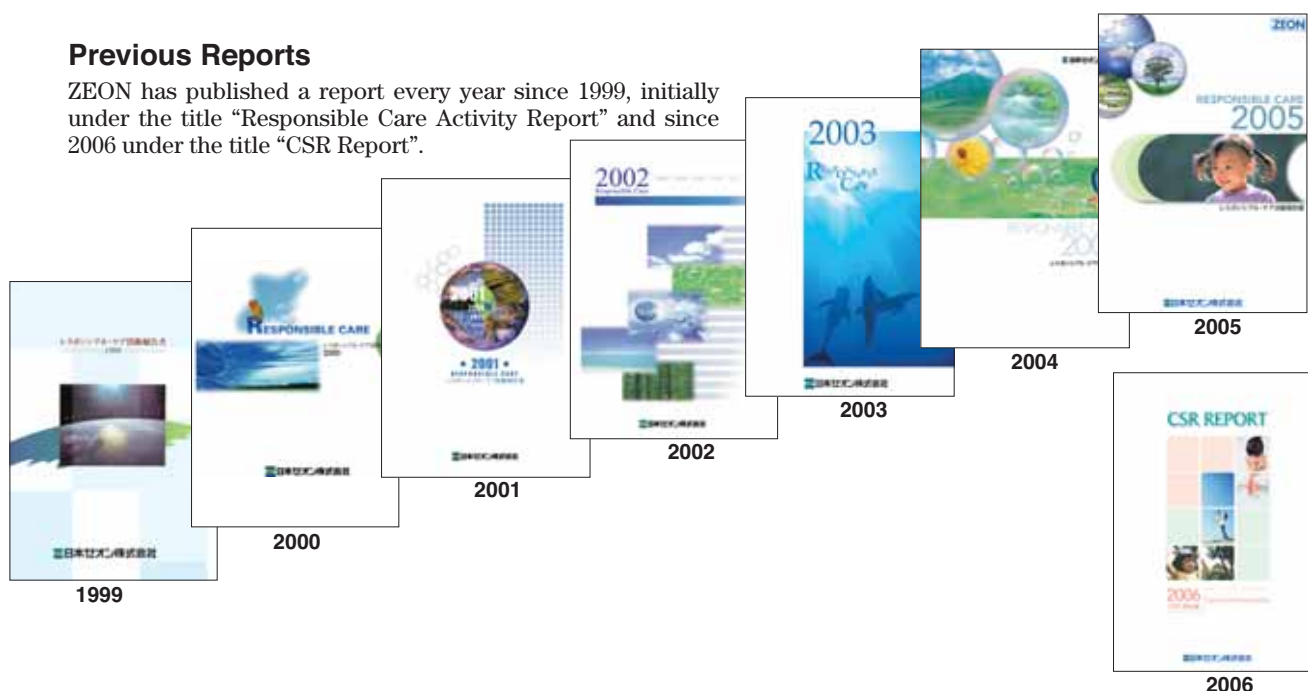
- 1) The rationality of the calculation and compilation methods used for the performance indices (figures) and the accuracy of the figures.
  - For the calculation and compilation methods used for the performance indices, the Head Office and Tokuyama Plant adopt rational methods. In those methods, the method to calculate and compile the environmental accounting was improved so that the calculation and compilation could be performed automatically. For all the other methods, we hope that the performance indices will be calculated and compiled without manual labor. We also hope that the data calculation formulas for each plant will surely retain actual values.
  - Within the range of our investigation, the performance figures were calculated and compiled correctly.
- 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 the President and management are at the forefront of efforts to prevent accidents cooperating with the plant employees and there have been no accidents and environmental safety problems.
  - We judge that the corporate governance, internal controls & risk management, and compliance systems have been strengthened. We hope company-wide efforts involving the plants and affiliates to strengthen these systems will be further enhanced in the future.
  - We are worried that the number of workplace injuries, especially for elderly employees, has increased. We hope that the danger prediction activities to prevent accidents, which are being promoted in the company, will yield results.
  - In the Tokuyama Plant, we judge that the plant manager leads the internal audit activities related to environmental safety, the Equipment Information Management system has been newly introduced to prevent omissions in plant safety inspection, equipment has been introduced that is effective to reduce the emissions of butadiene, and proactive efforts are being made to improve the waste water processing facilities.
- 4) Features of the report
  - We note that although the “Certified Security / Completion Inspector License” based on the high-pressure gas safety law was revoked in 2003, the company has gotten recertified as a result of its efforts.

## CSR Activity Time line (ZEON 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 1" 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
2006	The "Basic Policy Concerning the Establishment of an Internal Controls System" was established

## Previous Reports

ZEON has published a report every year since 1999, initially under the title "Responsible Care Activity Report" and since 2006 under the title "CSR Report".



CSR REPORT  
2007  
CSR Report

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