Providing affluence and comfort to people and society, with our unique technology.

Environmental and Social Report

Our Commitment to CSR
Message from the President

Restoring public trust in Nippon Shokubai as a chemical company

On September 29 of last year, an explosion and fire in an acrylic acid production facility at our Himeji Plant resulted in one fatality and 36 injuries, some serious. I extend my heartfelt condolences to the bereaved family and pray for the soul of the deceased. To the injured and the residents of the affected neighborhood, I am deeply sorry that you caused you such great pain, worry, and hardship. I also apologize for the disruptions caused to our customers and to the authorities concerned.

Following the accident, we formed an Accident Investigation Committee led by outside academic experts. They commissioned an investigation into the cause or causes of the accident and recommended measures to prevent a recurrence. In an interim report issued on January 18, the direct causes of the accident were publicly announced. In addition, in their final report issued on March 17, the committee released its findings on the causes of the accident and its recommended preventive measures. As a result, we have reestablished ourselves to making a genuine fresh start toward restoring public trust in Nippon Shokubai as a chemical company.

Since 1973, we have maintained an organization to implement safety initiatives under our corporate credo, “Safety takes priority over production.” However, last year we experienced a serious accident. Although we had never before experienced such a tragedy, we shall remain committed to restoring our company to a position of safety leadership.

We established our Safety Reinforcement Team in April to implement our preventive measures company-wide, without assuming the accident could be attributed to a problem inherent to a specific facility. We will implement preventive measures, manage their progress, and verify their state of implementation.

Going forward, we shall revisit the fundamental aspects of our corporate credo, “Safety takes priority over production,” making a fresh start with the goal of truly restoring Nippon Shokubai’s commitment to remaining a chemical company trusted by society. Our objective is safe, secure, and stable production.

In fiscal 2013, we were scheduled to launch the medium-term business plan that underpinned the latter half of TechnoAmenity 2015, our long-term business plan. As a result of last year’s accident, however, we decided to convert this plan into a single-year plan for fiscal 2013. We also emphasized accident recovery as our top priority. Moreover, we determined that our Responsible Care plan would also be implemented for a single fiscal year. We have reviewed our disaster prevention system with a focus on preventive measures and will direct all our energies into rebuilding our system. In addition, we intend to steadily implement various aspects of our corporate social responsibility (CSR) through conventional initiatives.

In this report, we introduce the CSR initiatives of the Nippon Shokubai Group, which encompasses our Responsible Care plan. We welcome your continued support and frank opinions, and we greatly appreciate your cooperation with our initiatives.

June 2013

Masanori Ikeda, President

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On September 29, 2012, our Himeji Plant experienced an explosion and fire involving one fatality. We offer our deepest condolences for the loss of life and we sincerely apologize to the bereaved family, to the injured, to neighboring residents, and to others who suffered the consequences of this tragic event.

In the aftermath of this accident, we formed an Accident Investigation Committee led by academic experts from outside our company who conducted an investigation into the cause or causes of the accident and recommended measures to prevent a recurrence. On March 27, 2013, we received the accident investigation report.

The following is an abstract of this report.

1. Summary of the Accident
At about 14:35 on Saturday, September 29, 2012, an explosion and fire struck the acrylic acid intermediate tank in the acrylic acid production facility of the Himeji Plant of Nippon Shokubai Co., Ltd. in Himeji-shi, Hyogo prefecture. This accident resulted in one fatality and 36 injuries.

2. Outline of the Plant Involved in the Accident

3. Schematic of the Acrylic Acid Production Process

4. Schematic of Equipment Involved in the Accident

5. Causes of the Accident
The investigation and analysis identified the direct causes of the accident as follows.
(1) Although the high-temperature bottom liquid from the rectifying column was building up in the intermediate tank, the “Recycle to Top” operation was not commissioned; therefore, the acrylic acid remained stagnant for a long period of time at high temperature in the upper part of the tank.
(2) Acrylic acid dimer formation accelerated in the high-temperature zone of the tank liquid, and the heat of the dimerization reaction further increased the temperature of the liquid. As a result, the acrylic acid began to polymerize, further increasing the temperature of the liquid.
(3) Due to a lack of thermometers and inadequate temperature monitoring, the abnormal condition that led to the polymerization reaction was impossible to detect. As a result, the intermediate tank exploded, leading to a fire, severe casualties, and property damage.

6. Measures to Prevent Recurrence of the Accident
(1) Implementing measures to prevent a recurrence for the equipment involved
(2) Ensuring company-wide deployment of measures to prevent similar disasters
(3) Fostering a culture of safety for a Safe Manufacturing Plant and Corporation

Note: Please visit our website to view a detailed accident report.

We are committed to implementing the following preventive measures by actively adopting the recommendations outlined in this report.

(1) Company-wide deployment of preventive measures
   • Assured implementation of risk assessments
   • Collection, sharing, and effective application of information on safety technology
   • Enhanced education and training programs
(2) Strengthening a culture of safety prioritization
(3) Verifying the implementation of safety measures
Nippon Shokubai’s CSR Concept

<Corporate Philosophy>

TechnoAmenity

Providing affluence and comfort to people and society, with our unique technology.

Management Philosophy

- We will conduct all of our corporate activities based upon a deep respect for humanity.
- We will pursue innovative technology.
- We will aim at coexisting with society, and working in harmony with the environment.
- We will act on the global stage.

Nippon Shokubai Corporate Behavior Charter

In the belief that it is our social responsibility to conduct business based upon the principles of compliance and self-responsibility for the sake of proper social development, we have set forth the following basic corporate behavior guidelines as the “Nippon Shokubai Corporate Behavior Charter.”

1. Guided by our Corporate Philosophy of “TechnoAmenity,” we will conduct all of our actions as a good corporate citizen.
2. We will comply with relevant laws both inside and outside of Japan, and act in accordance with in-house regulations.
3. We will create and nurture a sound, vibrant workplace, where each individual can hone their professional competence and find fulfillment in their career.
4. We will develop and market products and services that are both safe and useful, based upon an accurate understanding of social demands.
5. We will commit ourselves to eliminating labor hazards and accidents, and constantly strive to protect the global environment.
6. We will conduct business based on fair and open competition.
7. We will take a firm stance when dealing with unlawful or antisocial groups.
8. We will ensure frequent communications with our shareholders and members of society in general, and guarantee the appropriate disclosure of corporate information.
9. With respect for the culture and customs of every nation/region we serve, we will contribute to their development and wellbeing through community-based business undertakings.
10. We will ensure the solid and sustainable development of the company through business undertakings based soundly upon the above action guidelines.

In an effort to embody our CSR management with a high degree of effectiveness, the CSR Management Committee, chaired by the president, provides overall coordination while carrying out inspections and monitoring the implementation of the policies, and action plans as well as the achievements of each committee.

CSR Implementation Structure

In accordance with “TechnoAmenity”, our corporate philosophy, Nippon Shokubai established a management philosophy and corporate behavior charter to comprehensively view our corporate behavior from economic, social and environmental perspectives, setting out our corporate ethics, Responsible Care (RC), human rights & labor, information disclosure, social contribution and corporate governance as our management’s top priority issues and implementing our activities to enhance our corporate value via continuing dialogue with various stakeholders, including our customers, business partners, shareholders/investors, public administration, employees and local communities.

We have adopted a management vision based on this approach to CSR in order to achieve our long-term vision (ideal attitude). Moreover, we will continue to contribute to the emergence of a sustainable society by formulating and implementing our medium-term business plan as a concrete plan of implementation.
In order to impart a deeper understanding of our company, we strive to actively communicate with all stakeholders through environmental protection initiatives, involvement in local communities, and by supporting the development of the next generation. We contribute to society by focusing on maintaining harmony with society and the local community through our business activities.

### Environmental Protection Initiatives

#### Forest Development Initiatives

In an effort to help mitigate the threat of global warming, which presents a challenge for the 21st century, we are promoting our forest development initiative among employees who participate as volunteers in forest protection and regeneration. Through this awareness-raising effort, we aim to cultivate personnel who can think for themselves and act on the environment.

**Contributing to Our Forests and Water Resources**

The Akasai Valley is part of the headwaters of the Ibo River, which faces our Himeji Plant. In order to maintain the conservation of the headwater forest that extends to that area, we are undertaking forest development work in order to leave a forest for future generations. In addition, we have undertaken an initiative to offer "forest tours" to impart the importance of biodiversity.

**Location:** Akasai Valley, Hara-cho, Shiso-shi, Hyogo prefecture

**Activity:** Forest improvement and forest tours and the like

**Start date:** November 2008

**Note:** The forest development initiatives of Nippon Shokubai were undertaken in cooperation with the National Land Afforestation Promotion Organization and NPOs.

#### Japan-China Friendship Forest Development and Global Warming Prevention

Acknowledging the serious problem of global desertification, we are working to prevent desertification in inland China. We are planting trees with local residents and intend to restore the forest throughout the area where it once existed on this land.

**Location:** Ejin Horo Banner, Inner Mongolia Autonomous Region, China

**Activity:** Afforestation, maintenance, management, and the like

**Start date:** October 2008

#### Conserving and Popularizing the "Nojigiku" Chrysanthemum

In order to rescue, conserve, and popularize the endangered "Nojigiku" chrysanthemum, the Hyogo prefectural flower, we began cultivating it in 1972. We have been distributing seedlings every year since 1974 in cooperation with the Hyogo Prefecture. In April 2012, we distributed 30,000 seedlings to 74 organizations, including local governments.

Today, 160 varieties of Nojigiku, including foundation stock, have been conserved and cultivated in a 2,000-square-meter green yard at the Himeji Plant.

#### Sweet Potato Harvest Party

We grow sweet potatoes in the potato fields we have created in the green yard of our Himeji Plant. Each year in October, we invite neighborhood kindergartners to enjoy harvesting sweet potatoes. In fiscal 2012, about 623 parents and children visited together.

We have been holding this activity since 1971 and it has become rooted in the community. In fact, some of the children who harvested potatoes in the past are now employed with us.

#### Science Booth

We staffed a science booth at the Sakurayama Park Festival in July 2012 at the Himeji City Science Museum, which organized the event. We helped mainly elementary and junior high school students participate in chemical experiments with our superabsorbent polymer. All who attended clearly enjoyed the thrill of working with chemistry.

#### Training new employees hired in April 2012

Nippon Shokubai is committed to ensuring that new employees are well-integrated into the company. In 2012, we conducted orientation programs for new employees.

### Initiatives to Help Raise Future Generations

#### Hosting Internship Trainees

Each year from July to September, our various plants host trainees from technical colleges. In fiscal 2012, a total of 29 students from 21 colleges gained experience through this program.

#### Volunteer Initiatives

Employee volunteers participate in events held at the Nukachan Welfare Workshop (a support facility for the disabled) located near the Himeji Plant. We hope to further expand our circle of volunteerism in the future.

#### Cleanup Campaign

We participate in regular community cleanup campaigns. The Kawasaki Plant, together with affiliate companies, participates in the Tsujido Beach cleanup in Kanagawa prefecture. The Suita Plant participates in the riverbed cleaning effort along the Kanzaki River as part of the Kanzaki River Adopt-a-River Program. We are also collaborating with community beautification activities.

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### Our Policy on Social Initiatives

**In keeping with our corporate philosophy of TechnoAmenity and our commitment to protecting biodiversity, we intend to adopt initiatives focused on benefitting and increasing the prosperity of our stakeholders, including local communities, while maintaining clear communication with society as a good corporate citizen.**
We remain committed to various group-wide initiatives intended to further improve and strengthen our corporate ethics and legal compliance systems.

- **Corporate Ethics Training**

  **Training of Executive Officers**

  Following the introduction of our Executive Officer System in 2010, every year we provide training for executive officers with the corporate goal of strengthening internal controls and improving corporate governance.

  In December 2012, we provided an executive officer training session under the theme “Summary of the review of the Companies Act system and suggestions regarding corporate governance” for executives and operating officers (as well as corporate auditors in an observer role). We invited Associate Professor Kenichi Matsuo of the Graduate School of Law and Politics, Osaka University, to deliver this lecture. In conjunction with the ongoing revision of the Companies Act, this session provided a forum for developing a background for discussions and learning about basic concepts and directions as well as corporate governance considerations and implications.

- **Training in Specific Laws and Regulations**

  **Training Our Group Companies in Specific Laws and Regulations**

  Since January 2012, we have been providing our Group companies with training in Specific Laws and Regulations in order to further enhance Group-wide corporate ethics.

  In the past, we carried out sequential training in specific laws and regulations. These sessions have included “Basic Introduction to Contracts for Sales and Purchasing Departments,” “Basic Understanding of Contracts and the Antimonopoly Act (MD),” and the “Subcontract Act.” This training is provided to employees of Chugoku Kako Co., Ltd., Nippon Chemicals Co., Ltd., Nippon Nyukazai Co., Ltd., Tokyo Fine Chemical Co., Ltd., Nihon Jyoryu Kogyo Co., Ltd., Nippon Shokubai Trading Co., Ltd., and Nishihoku Butteru Co., Ltd., according to the needs of each company.

  In August 2012, Nippon Polyester Co., Ltd., provided separate legal training regarding the content of the Subcontract Act. Nine participants attended, primarily employees of divisions of Nippon Polyester engaged in subcontracting as part of their routine duties. This training outlined the responsibilities and prohibitions applicable to the main subcontracting enterprise under the Subcontract Act.

  Because Nippon Polyester falls under the category of a main subcontracting enterprise (more than ¥300 million in capital) as specified in the Subcontract Act, the participants engaged in a lively question-and-answer session about trading practices that emerged in their day-to-day business operations. In addition, they actively addressed issues related to practical application, resulting in more substantial training.

- **Information Disclosure**

  **In order to fulfill our social responsibility and ensure full management transparency while promoting a better understanding of our company among all stakeholders, we shall fairly disclose relevant corporate information regarding Nippon Shokubai, our subsidiaries, and our major affiliates on a timely basis.**

  **Flow of Information Disclosure**

  - **Within Nippon Shokubai**
    - Executive bodies (Approval of board of directors, management meeting, and the like)
    - Divisions
    - Subsidiaries & Principal Affiliates
  - **Disclosure Committee**
    - Determines method of information disclosure and the like.
  - **Information Disclosure**

- **Human Resources Management System**

  We have introduced a human resources management system based on management by objectives, which is applicable to all employees, and we are creating a substantial system that is both open and transparent.

  1. **Basic approach**
     - Create a substantial system that is both open and transparent.
     - Implement a fair employee reward mechanism based on roles, performance, and competency.
     - Structure a system capable of responding to diverse values.
  2. **Framework**
     - Multiple avenues to rewards (Rewards can be accorded for performance or for demonstrated skills and proficiency.)
     - Clarification of job grade criteria and evaluation criteria (Ratings and required performance and competency are specified.)
     - Feedback focused on human resources development (Advice is provided according to management by objectives and an appropriate evaluation system.)

- **Human Resources Development**

  1. **Personnel objectives**
     - Independently minded personnel capable of taking the initiative in identifying and resolving issues
     - Personnel capable of flexibly adapting themselves and their organizations
     - Personnel capable of demonstrating sophisticated expertise
     - Personnel capable of working with a diverse international community
  2. **Characteristics of the human resources development system**
     - Development according to section
     - Emphasis on self-directed development to boost career development
     - Development according to corporate hierarchy
     - Emphasis on self-directed development to boost career development
     - Emphasis on strengthening management leadership

- **A Positive Working Environment**

  In an effort to provide our employees with the opportunity to achieve “the good life,” we offer a wide-ranging employee welfare system for the benefit of our employees and their families. We are responding to social realities by striving to create an environment and infrastructure that provides a variety of systems for supporting employees with their parenting and nursing responsibilities while employed. We also published a guidebook that summarizes our balanced support system, and we continue to keep our employees broadly informed and educated.

  **Supporting the Positive Use of Personal Time**

  We advise our employees on the positive use of their time away from work by offering guidance in maintaining a balanced work, family, and social life, thus contributing to life enrichment.

  **Providing Balanced Assistance for Child Care and Nursing Care**

  Japan’s low birth rate and aging population remain pressing issues; therefore, it is essential that all sectors of society continue to support child care and nursing care. Private enterprises are also required to create an environment that supports a balance among work, child care, and nursing care. We are responding to these social realities by striving to create an environment and infrastructure that provides a variety of systems for supporting employees with their parenting and nursing responsibilities while employed. We also published a guidebook that summarizes our balanced support system, and we continue to keep our employees broadly informed and educated.

  **Re-employment System**

  This system corresponds to measures addressing the rescheduling of pension eligibility age and is intended to help stabilize the lives of retired employees through re-employment. The period of extension ends until the age of 65. This initiative contributes to an employee’s sense of security, self-worth, job satisfaction and motivation, as it provides ongoing employment in a familiar work environment.

- **Toward a Sound Labor-Management Relationship Based on Mutual Respect**

  Nippon Shokubai and the Nippon Shokubai Labor Union maintain a dialogue based on mutual respect. Through our good labor-management relationship based on mutual understanding and trust, we are addressing various issues and achieving the objectives through cooperation. Under the union shop agreement, all our employees — except for managers — are required to join the union.

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Corporate Governance

Management Structure

We are working to improve our corporate culture and strengthen our competitiveness in order to respond to global trends. Our approach to corporate governance therefore establishes our foundation. Using the system illustrated in the following diagram, we are taking steps to revitalize our board of directors, strengthen our audit system, improve the efficiency of our management structure, and improve and strengthen our compliance system.

Our Corporate Governance System

For the chemical industry, Responsible Care (RC) activities are very important contributors to sustainable development through their focus on health, safety, and environmental protection over the total product life cycle. At the same time, they help to increase the trust of society through dialogue. Nippon Shokubai participated in the Japan Responsible Care Council (JRCC) at the time of its establishment in 1995.

Responsible Care Activities

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RC Policy

In conformity with our Corporate Philosophy, Management Philosophy and the Nippon Shokubai Corporate Behavior Charter, we rank it as an important management measure to provide products and technologies that contribute to society and environmental protection. In addition, while paying due respect to the principle of Sustainable Development, we are determined to conduct all activities in accordance with the following policy related to environmental protection, safety and product quality that will bring our business operations into harmony with the global environment.

1. Aim at environmental protection and reduction of negative environmental impact throughout the entire life cycle of a product, from development to disposal.

2. Ensure the safety of our employees and our communities by targeting zero accidents and zero disasters with a commitment to the principle “Safety takes priority over production.”

3. Confirm the safety of chemical materials, intermediates and products, and consider the health of our customers, employees of our logistics subcontractors, our employees, and others.

4. Stably supply products and associated services that meet customer satisfaction and inspire their trust.

5. Publicly announce the results of these activities and make an effort to communicate for proper understanding.

We will implement this RC Policy in all our business operations by ensuring all employees have a thorough understanding and awareness of its importance. The president shall be the person with the ultimate responsibility for implementing this policy.

RC Promotion Organization

The president is chairman of the RC Promotion Committee, and technical committees and sub-committees are established to promote company-wide RC activities.
Responsible Care Activities

The Results of Our 7th Medium-term Responsible Care Promotion Basic Plan in Fiscal 2012

Concurrent with our new medium- and long-term business plans, Nippon Shokubai has formulated a three-year Medium-term Responsible Care Promotion Basic Plan targeting safety, quality, environmental protection, and other priorities. In fiscal 2012, our environmental protection initiatives did not succeed in lowering both our energy intensity and CO₂ emissions intensity relative to the previous year. However, we maintained our achievement of zero emissions,¹ and we reduced our emissions of substances subject to the PRTR Law by 32% compared with the results for fiscal 2005.

In the area of occupational health and safety, we registered eight injuries with loss of workdays² and seven injuries without loss of workdays³ as well as one facility disaster and one facility accident.⁴ In the areas of chemical safety and quality, we encountered no chemical problems or serious customer complaints⁵ during the period.

8th Responsible Care Basic Plan (Fiscal 2013)

Under our corporate credo, “Safety takes priority over production,” we have continued to emphasize safe operations. Unfortunately, on September 29, 2012, our Hijiyama Plant experienced an explosion and fire. In our 8th Responsible Care Basic Plan, we are focused on recurrence prevention as a priority issue. Furthermore, for uniformity with our current business plan, our 8th Plan spans a single year (fiscal 2013).

Objectives

<table>
<thead>
<tr>
<th>Priority Area</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Protection</td>
<td>To reduce energy intensity and CO₂ emissions intensity by 15% compared with the level of the previous fiscal year.</td>
</tr>
<tr>
<td>Process Safety and Disaster Prevention</td>
<td>To reduce zero serious customer complaints.</td>
</tr>
<tr>
<td>Quality</td>
<td>To reduce zero serious customer complaints.</td>
</tr>
<tr>
<td>Communication with Society</td>
<td>To maintain a dialogue with stakeholders and implement reasonable information disclosure.</td>
</tr>
<tr>
<td>Developing RC among Our Group Companies</td>
<td>To promote company-wide deployment of accident prevention measures.</td>
</tr>
</tbody>
</table>

¹ According to company standards.
² Refers to group companies inside and outside Japan, unless otherwise specified.
³ Emissions of substances subject to the PRTR Law.
⁴ To maintain zero emissions.
⁵ To reduce by 10% from fiscal 2010 levels (102.2 tons/year).
⁶ To maintain zero emissions.
⁷ To maintain zero facility accidents.
⁸ To receive zero serious quality complaints.
⁹ Zero quality nonconformities.
¹⁰ Zero serious customer complaints.
¹¹ Zero quality nonconformities.
¹² To maintain a dialogue with stakeholders and implement reasonable information disclosure.
¹³ To provide company-wide deployment of accident prevention measures.
Environmental Protection Initiatives

Environmental Impacts of Our Business Operations

We are engaged in various initiatives to reduce the environmental impacts of our business operations and to provide better products and services.

1. **Responsible Care Activities**
   - **Internal recycling**: 20,362 tons
   - **COD**: 39 tons
   - **Substances subject to PRTR**: 50 tons
   - **Internal recycling**: 20,362 tons
   - **Water**: 12,827 million m³

2. **Raw Materials**
   - **Crude oil equivalent**: 157,000 kL
   - **Water**: 12,827 million m³

3. **Water**
   - **COD**: 39 tons
   - **Substances subject to PRTR**: 50 tons

4. **Wastewater**
   - **COD**: 39 tons
   - **Substances subject to PRTR**: 50 tons

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Environmental Protection Initiatives

**Pollution Control Initiatives Targeting Air and Water**

We introduced a high-performance activated sludge treatment system to accommodate increased production capacity and ensure consistent treatment.

To control air pollution, we are taking steps to reduce byproduct oil and consumption of fossil fuel. At the same time, we are converting fuel sources to natural gas while monitoring our emissions of SOx, NOx and dust.

In addressing water pollution control, we are endeavoring to reduce the environmental impact (reduction in chemical oxygen demand, or COD) of our wastewater by recovering wastewater from the production process and reducing it. We have also installed an activated sludge treatment system and a waste liquid combustion furnace.

In addition, in fiscal 2009 we introduced a high-performance activated sludge treatment system to ensure stable treatment of high COD loads.

**Responsible Care Activities**

**Waste Reduction Initiatives**

We are striving to reduce the amount of waste subject to final disposal at off-site landfills.

Adressing waste reduction is a necessary initiative to support the emergence of a society committed to recycling. By achieving and continuing our initiative toward zero emissions (defined as ‘reducing the quantity of waste subject to final disposal at off-site landfills to less than 0.1% of total amount of waste generated’), we are promoting the sorting for recovery and recycling of our waste.

In fiscal 2012, we continued to implement our zero emissions policy by reducing the amount of waste subject to final disposal at off-site landfills through on-site treatment of production residues and by implementing thorough sorting for recovery and recycling.

**Environmental Protection Initiatives**

**Chemical Substances Control Initiative**

We are focusing on reducing the chemical emissions.

In 1995, we participated in a voluntary PRTR survey undertaken by the Japan Chemical Industry Association and have set out to reduce our emissions of chemical substances into the environment.

In fiscal 2012, we released 105 tons of chemical substances, which represents a 32% decrease in emissions compared to fiscal 2005 levels. The emissions include the estimated chemical emissions attributable to the explosion and fire at the Himeji Plant.

We remain focused on further reducing emissions toward our fiscal 2013 target of a 10% reduction from fiscal 2010 levels.

**Top 10 Substances Subject to the PRTR Released in Fiscal 2012**

<table>
<thead>
<tr>
<th>No.</th>
<th>Substance Subject to the PRTR</th>
<th>Released into Atmosphere (tons)</th>
<th>Released into Water (tons)</th>
<th>Total Emissions (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Boron compounds</td>
<td>0.00</td>
<td>34.7</td>
<td>34.7</td>
</tr>
<tr>
<td>2</td>
<td>Acrylic acid and its water-soluble salts</td>
<td>14.96</td>
<td>0.00</td>
<td>14.96</td>
</tr>
<tr>
<td>3</td>
<td>Ethylene oxide</td>
<td>9.43</td>
<td>0.00</td>
<td>9.43</td>
</tr>
<tr>
<td>5</td>
<td>Benzene compounds</td>
<td>0.00</td>
<td>11.2</td>
<td>11.2</td>
</tr>
<tr>
<td>6</td>
<td>Toluene</td>
<td>7.79</td>
<td>0.00</td>
<td>7.79</td>
</tr>
<tr>
<td>8</td>
<td>Ethylene glycol monomethyl ether</td>
<td>5.56</td>
<td>0.00</td>
<td>5.56</td>
</tr>
<tr>
<td>9</td>
<td>Vanadium compounds</td>
<td>4.54</td>
<td>0.00</td>
<td>4.54</td>
</tr>
<tr>
<td>10</td>
<td>Ethylene acrylate</td>
<td>3.76</td>
<td>0.00</td>
<td>3.76</td>
</tr>
</tbody>
</table>

* In fiscal 2012, acrylic acid water-soluble salt, vanadium compounds, and other substances were included in the PRTR.
Environmental Protection Initiatives

Environmental Accounting

The values determined in our environmental accounting were aggregated according to the Environmental Accounting Guidelines published in 2000 by the Ministry of the Environment of Japan and the Environmental Accounting Guidelines for the Chemical Industry published in 2003 by the Japan Chemical Industry Association and the Japan Responsible Care Council. We also made reference to the 2007 Edition of the Environmental Accounting Guidelines published by the Ministry of the Environment of Japan.

- **Environmental Protection Costs & Environmental Protection Benefits**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Main Initiatives</th>
<th>Amount Invested</th>
<th>Benefits</th>
<th>Effects</th>
<th>Reference Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental protection cost related to control of environmental pollution and accident prevention (Environmental protection cost)</td>
<td>Preparing an air and water pollution, controlling hazardous substances</td>
<td>521,401</td>
<td>No pollution problems occurred.</td>
<td>P18, 19</td>
<td></td>
</tr>
<tr>
<td>Energy efficiency (preventing global warming)</td>
<td>Energy efficiency efforts resulted in a 14% reduction in CO2 emissions intensity from R&amp;D activities.</td>
<td>13,182</td>
<td>Energy efficiency efforts resulted in a 14% reduction in CO2 emissions intensity from R&amp;D activities.</td>
<td>P17</td>
<td></td>
</tr>
<tr>
<td>Responsible Recycling (Recycling cost)</td>
<td>Appropriate treatment and disposal of industrial waste</td>
<td>5,099</td>
<td>We maintained zero emissions by continuing to sort and recycle our solid waste.</td>
<td>P18</td>
<td></td>
</tr>
<tr>
<td>Cost of controlling the environmental impacts of production and service operations occurring upstream &amp; downstream (Environment business cost)</td>
<td>Reduce of drum containers</td>
<td>21</td>
<td>Some of drum containers are reused.</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Environmental protection cost related to management activities (Environmental management cost)</td>
<td>Improvement of environmental management systems</td>
<td>966</td>
<td>Enhancing our environmental management systems</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Environmental protection cost related to RDD activities (RDD cost)</td>
<td>Relocation of the environmental impact through development and manufacturing of green products</td>
<td>1,815</td>
<td>Conducting R&amp;D of catalysts for treating wastewater containing organic substances and catalysts for downstream decomposition</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Environmental protection cost related to social activities (Social activity cost)</td>
<td>Environmental-related contributions</td>
<td>34</td>
<td>Forest development initiatives</td>
<td>P18</td>
<td></td>
</tr>
<tr>
<td>Total (Environmental accounting)</td>
<td></td>
<td>7</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Effects (Monetary Benefits) Resulting from Environmental Protection Initiatives</th>
<th>(millions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating revenue from recycling used products and waste generated by principal business activities</td>
<td>23</td>
</tr>
<tr>
<td>Reduction in expenses associated with energy conservation</td>
<td>1,123</td>
</tr>
<tr>
<td>Reduction in waste disposal cost arising from resource conservation and recycling</td>
<td>1,027</td>
</tr>
<tr>
<td>Total</td>
<td>2,173</td>
</tr>
</tbody>
</table>

### Reference

Total investment for the period: 9,462 million yen
Total R&D expenses for the period: 10,758 million yen

Environmental Investment

Every year, we actively invest in environmental protection measures. Beginning in fiscal 1990, we began to calculate our total investment in environmental protection.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Environmental Accounting

The paper collects and analyzes the cost and effectiveness of environmental protection initiatives at our company, making the data available to the public. It is focused on sustainable development for companies with the goal of efficiently and effectively promoting environmental protection initiatives while maintaining a good relationship with society.

### Responsible Care Activities

#### Process Safety and Disaster Prevention Initiatives

- **Promotion of Voluntary Safety Initiatives**

Since our company was established, we have been promoting voluntary safety initiatives as we have been employing our own proprietary technology in our production operations. However, we experienced an explosion and fire (resulting in one fatality and 36 injuries) in the acrylic acid production facility of our Himeji Plant. Our entire company will implement preventive measures to restore public trust in our company and ensure that such an accident never recurs.

- **Achieving Continuous Improvement with a Safety Management System**

In an effort to more thoroughly visualize our safety initiatives and promote continuous improvement, we have introduced a safety management system at all our plants. Under this system, we have been upgrading safety management by formulating our safety management plan and related goals, implementing the plan, and assessing the system, all in a cyclical manner.

- **Assessing the Safety of Facilities**

In order to prevent accidents and disasters, we conduct risk assessments when undertaking new construction, expansion, and remodeling of facilities, or when changing work procedures. In fiscal 2001, we began employing HAZOP and other methods when re-evaluating existing plants to ensure safety.

- **High-Pressure Gas Safety Certification Acquired**

In fiscal 2012, in recognition of their compliance with the provisions of the High Pressure Gas Safety Act, the six facilities of the Chidori Plant underwent certification and were recognized by the Ministry of Economy, Trade and Industry as “Certified Completion Inspector and Certified Safety Inspector.” This certification enables these plants to conduct self-administered safety and completion inspections. Our Ukishima Plant obtained additional certification for one facility, resulting in a total of seven facilities having received such recognition.

- **Implementation of Various Emergency Drills**

We systematically conduct various emergency drills every year at each plant and improve our emergency response ability by adopting improvements in subsequent drills. Using the lessons learned from the exercise and fire at the Himeji Plant, we are reviewing and strengthening our disaster prevention system as well as our education and training programs.

- **Earthquake Preparedness**

Following the Great Hanshin-Awaji Earthquake, we conducted a review of earthquake countermeasures in fiscal 1995. In light of the Great East Japan Earthquake, we reviewed earthquake preparedness with a focus on the potential for tsunamis and liquefaction. We are implementing measures according to the plan in order to further improve safety from the perspective of both the tangible and intangible.

### Basic Approach to Safety Issues

Our corporate credo, “Safety takes priority over production”— and developed a policy regarding safety management. We also incorporated Safety Management Regulations into our corporate regulations.
Responsible Care Activities

Occupational Safety and Health Initiatives

Continuous Improvement through the Occupational Safety and Health Management System

In fiscal 2003, we introduced our Occupational Safety and Health Management System (OSHMS) and have been implementing it continuously since then. Using this system, we have been improving occupational safety and health by seeking to eradicate industrial accidents, reduce potential risk factors, and promote health and the creation of pleasant work environments.

Also, we are committed to achieving zero industrial accidents by systematically implementing “KY” (kiken yochi or “risk prediction”) campaigns, “close-call” incident (hiyari hatto) reporting campaigns, our “S 5” campaigns, and a variety of drills and training classes.

On-site Training Sessions

We hold a variety of on-site training sessions at each plant with the intention of increasing our ability to predict the risks of on-site work. We offer hands-on training including first-aid, donning of safety belts, risks of working at height, valve opening and closing, flange disassembly and reassembly; and training in exposure to liquids and electrical hazards as well as demonstration of the pinching and entanglement hazards of rotating machinery. Through this training, we are heightening our operators’ sensitivity to risk.

KY Campaign

In an effort to prevent industrial accidents, we are committed to daily safety initiatives targeting work-related risks and have maintained a focus on our KY risk prediction campaign. We have been implementing group KY before work, KY for individual workers, and radio (Mobi) KY coordination between workers and the control room. Thus, we are enhancing our sensitivity to risk.

We also carry out systematic drills and KY-focused training, such as KY training with case sheets and holding KY workshops.

Occurrence of Industrial Accidents

In fiscal 2012, we experienced seven injuries with loss of workdays and five injuries without loss of workdays (among these, seven injuries with loss of workdays and three injuries without loss of workdays were attributable to the explosion and fire that occurred at the Himeji Plant). Our contractors experienced one injury with loss of workdays and two injuries without workdays.

Addressing the Asbestos Issue

Since our establishment, we have never manufactured asbestos products; however, because we used insulation and sealing materials containing asbestos, we have handled asbestos-containing products on occasion. Therefore, we are contacting employees and retirees regarding health issues and are implementing a phase-out of asbestos-containing products.

In 2006 and 2009, we sent out information about asbestos-related medical examinations to retirees, offering them an annual medical examination at our expense. To date, a total of 72 retired employees have been issued a Health Check Note. Six persons were awarded industrial accident compensation benefits under the Industrial Accident Compensation Insurance Act. Two persons were awarded special compensation benefits for bereaved families under the Act on Asbestos Health Damage Relief. In the future, we will continue to support our retirees and employees with asbestos checkups and consultations.

Regarding substitutes for asbestos-containing products, we have adopted substitutes in cases where the asbestos was at risk of becoming airborne or wherever the potential existed for human contact with the product. As for other asbestos-containing parts, we are systematically phasing them out whenever the opportunity arises to update facilities or replace parts.

Close-call Incident (Hiyari Hatto) Reporting Campaign

Through this campaign, we are implementing safety measures in our day-to-day activities with a focus on close calls and near misses in order to clarify the reasons for a close call and near misses in order to clarify the reasons for a close call and near misses, improve the technical and organizational countermeasures, eliminate similar tense or planning circumstances that do not necessarily involve an accident. 

KY Campaign

Chemical industry

Nippon Shokubai

Risk Assessment

This technique identifies various risks to the workplace, estimates the extent of the workplace, identifies any trends in the workplace, identifies any trends in the workplace, and prioritizes risk reduction at workplace

OSHMS (Occupational Safety and Health Management System)

This management system is undertaken in collaboration with workers, under the guidance of the company’s occupational health and safety team. The system seeks to prevent accidents and disasters by identifying and controlling risk factors and reducing the extent of harm to workers. The system’s key components are prevention of accidents and disasters, medical and dental care, and education and training.

“S 5” Campaign

An activity promoting the “S 5” (sort, set in order, shine, standardize, and maintain) targeting working environments to facilitate workplace safety and health standards.

Risk Assessment

This technique identifies various risks to the workplace, estimates the extent of the workplace, identifies any trends in the workplace, identifies any trends in the workplace, and prioritizes risk reduction at workplace.
Responsibility Care Activities

Chemical Safety Initiatives

We have established a Chemicals Total Management Committee and have implemented a variety of initiatives to work toward our goal of zero legal and social issues related to the chemical substances contained in products. This effort applies throughout the product life cycle from the R&D stage to disposal at the end of the product service life.

We are upgrading our internal systems across the global operations of our Group in order to comply with national and international laws and regulations related to chemical products. Moreover, we are committed to providing our customers with information on relevant laws and regulations as well as product safety information.

Accommodating the REACH Regulation

Our Group manufactures, imports, and sells a variety of products in Europe, including superabsorbent polymer, and we carry numerous substances that are subject to REACH registration. To expand our business under the terms of REACH, we are required to collect safety information, undertake risk evaluations, and register these substances. We are preparing to accommodate these requirements in collaboration with others in the same industry and throughout our supply chain. (Substances subject to the November 2010 registration deadline have all been registered.)

We will continue to promote such initiatives in order to ensure our Group in Europe remains in compliance with local laws and regulations.

Establishment of a Chemical Substance Management System

We have implemented a comprehensive chemical substance management system that can respond quickly to risk assessments, the issuance of SDSs, and surveys from customers querying us on the chemical content of our products. We have created and launched a system by providing centralized management of various types of information encompassing chemicals, raw materials, hazardous materials, and regulations.

Ensuring the Safety of New Products

We have introduced a gate system at each stage from R&D to commercialization. In order to maintain safety throughout all processes including material procurement, processing, production, application, and disposal according to the terms of Responsible Care, we have adopted a quality management system. We implement voluntary Responsible Care activities, at each stage we use technical expertise to determine whether to proceed to the next stage.

Gate System

<table>
<thead>
<tr>
<th>Gate</th>
<th>Planning</th>
<th>Laboratory Research</th>
<th>Marketing and Development</th>
<th>Pilot Trial</th>
<th>Commercialization</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC Checkpoints at Each Stage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Safety information sharing

Implementation of chemical safety tests

Lawfulness checking

Hazard and risk assessment

Examination of safety, health of workers and no defect in a product

Examination of process safety

REACH

This European Union’s chemical regulation is an acronym for Registration, Evaluation, Authorization and Restriction of Chemicals. While assessment of chemical substances has historically been carried out at the discretion of administrative agencies, this responsibility was later transferred to companies. A company approach requires self-assessment on the use of these substances. We have compiled and registered the supply chain to ensure the responsibility for maintaining registration falls to a category. One of the objectives of this legislation is to strengthen the comprehensiveness of manufactures within the EU.

Risk Assessment of Chemical Substances

Chemical risk assessment evaluates the risk of various toxic materials associated with chemical substances. Chemical manufacturers have the social responsibility to minimize the risk of potential hazards. We have implemented a system for evaluating the risk of toxic substances and are required to implement voluntary Responsible Care activities.

SDS

The Safety Data Sheet lists the chemicals’ properties as well as data on their safety, transportation requirements, applicable laws, proper handling, and specific emergency response measures in a prescribed format. We compile an SDS for each of our products we manufacture and develop, and we have implemented a system for distributing the SDSs to our customers. In addition, we have established a system for coordinating the use of SDSs for various countries. We have an SDS available in English, Japanese, and in a Switzerland version.

Accommodating Green Procurement

For substances that are regulated or highly hazardous, we have independently assigned them to two categories: “prohibited substances (total ban on use)” and “regulated substances (handling restricted depending on product application).” We are promoting the development of green products and the procurement of raw materials with low environmental impact while determining and controlling the substances in our products. In response to customer requirements regarding the discontinuation and reduction of substances imparting an environmental burden, we are striving to eliminate these hazardous substances from our products and are disclosing appropriate information to customers.

Product Safety Initiatives

Our Product Safety Review Subcommittee verifies product safety, including compliance with the Product Liability Act. We prepare and inspect GHS-compliant warning labels, SDSs, and Yellow Cards for the logistics sector and provide information to customers in real time while promoting training sessions for our employees.

Accommodating Green Procurement

For substances that are regulated or highly hazardous, we have independently assigned them to two categories: “prohibited substances (total ban on use)” and “regulated substances (handling restricted depending on product application).” We are promoting the development of green products and the procurement of raw materials with low environmental impact while determining and controlling the substances in our products. In response to customer requirements regarding the discontinuation and reduction of substances imparting an environmental burden, we are striving to eliminate these hazardous substances from our products and are disclosing appropriate information to customers.

Quality Assurance Initiatives

We give the highest priority to providing products and services that fully satisfy our customers while earning their trust through consistent quality improvement.

Customer Satisfaction Initiatives

All our plants and all Group companies engaged in manufacturing and distribution both within and outside Japan have adopted a quality management system. We implement quality assurance initiatives from the product development stage through to manufacturing and delivery.

We are dedicated to continuous improvement of our quality management system to ensure our customers are satisfied with the stable high quality of our products and services.

Promoting Initiatives to Address Quality Issues

We respond quickly to any quality issues that arise and share information throughout the company by compiling it into a database to visualize the progress of the response. At the same time, we are preventing quality issues from occurring through company-wide distribution of case histories.

In addition, we provide appropriate advice on quality issues to Group companies inside and outside Japan and always proactively strive to prevent the emergence of quality issues.

Green Procurement

This initiative responds to the national policy to promote the purchase of products and raw materials with reduced environmental impact through recycling and the like. This initiative guides our companies in their purchase of raw materials and products with reduced environmental impact.

We respond quickly to any quality issues that arise and share information throughout the company by compiling it into a database to visualize the progress of the response. At the same time, we are preventing quality issues from occurring through company-wide distribution of case histories.

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Green Procurement

This initiative responds to the national policy to promote the purchase of products and raw materials with reduced environmental impact through recycling and the like. This initiative guides our companies in their purchase of raw materials and products with reduced environmental impact.
On September 29, 2012, our Himeji Plant was struck by a fatal explosion and fire. We offer our deepest condolences for the loss of life and we sincerely apologize to the bereaved family, to the injured, to neighboring residents, and to others who suffered the consequences of this tragic event. We are firmly resolved never to allow such an accident to recur and are committed to restoring our safety culture.

Considering the accident that occurred at the Himeji Plant in September of last year and incidents at other industrial complexes, we set out to overhaul our plant’s safety measures and established and enhanced a more concrete emergency response. In addition, we are systematically incorporating safety drills and other measures to respond to risks caused by large earthquakes. Our updated application for certification as an inspector under the High Pressure Gas Safety Act was also approved. In terms of our safety record, one employee suffered an injury without loss of workdays. As a result, we undertook to review our facilities and safety standards. Moreover, we carefully conducted “KY” (ken yochi, or “risk prediction”) campaigns, “close-call” incident (herayatsu) reporting campaigns, and risk assessments while also taking steps to improve our operations. We are steadily implementing plans to reduce waste, improve energy efficiency, and reduce emissions of PRTR-controlled substances. We will continue to promote our RC initiatives with the goal of achieving a safe and reliable plant.

On September 29, 2012, an explosion and fire occurred at the plant.

Our employees suffered seven injuries with loss of workdays and three without loss of workdays; our contractors suffered one injury with loss of workdays and one without loss of workdays.

We increased our energy intensity by 47%, our total emissions of substances subject to the PRTR by 15%, and our total waste generated by 25%, year-on-year.

In fiscal 2010, vanadium compounds were included in the PRTR.
Responsible Care Activities
Production Site Reports

Suita Plant

- Plant Outline
  - Plant Manager: Hideyuki Nishibayashi
  - Location: 5-8 Nishi Otabi-cho, Suita
  - Number of employees: 82
  - Products: Acrylic resins for adhesives, resins for paints, and other products

Continuing the performance we have demonstrated since fiscal 2007, the Suita Plant experienced zero industrial accidents (including injuries without loss of workdays) and zero facility disasters. As we do not view this result with self-satisfaction, we will continue to work toward accident prevention through the steady adoption of various safety initiatives. Moreover, concerning last year’s accident at the Himeji Plant in September, we are committed to implementing measures to prevent such accidents through company-widedeployment.

Among our environmental protection initiatives, we have been implementing ongoing steps to improve our recycling rate through sorting of waste. This commitment has enabled us to further reduce our waste emissions.

As the plant is located in the midst of an urban area, we will continue to reduce our environmental impact in collaboration with our on-site research department, maintain our targets of zero accidents and disasters, and strive to gain the greater trust of the local community by supporting their peace of mind now and in the future.

Fiscal 2012 Results of RC Activities

- We achieved zero industrial accidents, zero facility disasters, zero problems related to chemical safety, and zero serious quality complaints.
- We are maintaining our low levels of emissions of substances subject to the PRTR.
- We reduced the volume of waste generated by continuing to recover sorted waste.
- We reduced energy consumption.
- We reduced CO2 emissions.
- We increased recycling rates.

Responsible Care Activities
Initiatives of Group Companies

Nisshoku Butsuryu Co., Ltd.

The Nisshoku Butsuryu Group continues to sharpen its focus on environmental protection, distribution safety, and distribution quality. At the same time, it aims to become an even better logistics company that warrants the full confidence of shippers and customers alike for implementing a management system according to ISO international standards.

- Reducing the threat of global warming and mitigating environmental impacts through eco-friendly logistics initiatives focused on energy-efficient driving methods; green management; and modal shifts and transport efficiency.
- Introducing an OHSAS 18001-compliant Occupational Safety and Health Management System in fiscal 2012 and continuing to conduct risk assessments of hazardous and toxic tasks such as in-yard material handling operations.
- Proactively pursuing a commitment to safety management (transportation safety management) as a truck transport company and introducing an advanced driving information system (a combination of digital tachometers, GPS units, and drive recorders) according to risk evaluations to support energy-efficient driving methods, safe driving, and accident response.
- Systematically conducting voluntary checks of tankers in an effort to prevent leakage during transport.

Group Companies in Japan

Nippon Polyester Co., Ltd.

The company’s employees are engaged in RC initiatives in fiscal 2012 and have established targets in six areas: environmental protection; process safety and disaster prevention; occupational safety and health; chemical safety; quality; and communication with society.

For its environmental efforts, Nippon Polyester has reduced its industrial waste emissions and plans additional steps with innovations intended to achieve further reductions.

Regarding environmental targets for products and services, the company strives to design products containing no hazardous chemical substances while implementing steps to make manufacturing and sales more eco-friendly.

Unfortunately, the company experienced four industrial accidents in fiscal 2012. All workplaces reviewed their facilities to identify unsafe operations as well as risks of pinching and entanglement; they then proposed improvements to both facilities and management aspects. The company’s goal is to inculcate a high level of safety awareness under the slogan “Let’s achieve zero disasters at Nippon Polyester!”

Chugoku Kako Co., Ltd.

In fiscal 2012, Chugoku Kako experienced zero facility disasters and zero industrial accidents. Regarding process safety and disaster prevention, the company undertook verification of facility operation interlocks, a firehouse drill using firefighting pumps, and nighttime emergency response drills in addition to its conventional initiatives. As for occupational safety and health, the company enhanced employee safety awareness by conducting “close-call” incident (hiyari hatto) reporting campaigns and safety patrols. The company is committed to future RC activities in the interests of maintaining operational safety.
**Initiatives of Group Companies**

### Group Companies in Japan

**Tokyo Fine Chemical Co., Ltd.**

In fiscal 2012, Tokyo Fine Chemical completed a maintenance audit of its ISO 9001 registration and renewed its EcoAction 21 environmental management system while resolving to further strengthen its quality and environmental management systems. In terms of process safety and disaster prevention, the company achieved its target of zero facility disasters and zero facility accidents. As for its emergency response, the company conducted a joint disaster response drill at its plant yard in order to practice firefighting in cooperation with the local fire department. The company also conducts training to ensure a rapid response can be provided.

**Nippon Polymer Industries Co., Ltd.**

Among its environmental protection initiatives for fiscal 2012, Nippon Polymer conducted waste reduction activities focused on disposal of filter media resulting from filtration of products as well as reduction of the volume of wastewater discharged; however, the company was unable to achieve its goals. In other areas, the company improved the green space on its premises. It consolidated its various scattered green spaces resulting from production-related facility expansions located around its warehouse and hazardous material tank farm, creating beautiful and more extensive green spaces.

**Nippon Chemicals Co., Ltd.**

Nippon Chemicals continued to implement its integrated internal audit under ISO 14001 from the preceding year, and has now maintained its certification of ISO 9001 registration for more than ten years. In October, the company underwent screening by a certification organization and renewed its registration. The company provided a briefing session on revisions to laws and ordinances and conducted a review and revisions of all product SDGs and all product labeling in response to CLP Regulations (Classification, Labeling, and Packaging of Substances and Mixtures) of the EU as well as revisions of the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. and the Industrial Safety and Health Act.

The company experienced several injuries without loss of workdays in fiscal 2012 and remains committed to ensuring stable operation by working to prevent any recurrence.

**NIPPON NYUKAZAI CO., LTD.**

Regarding the primary initiatives in the area of occupational safety in fiscal 2012, NIPPON Nyukazai worked on improving safety awareness through small group activities and promoted improvements in the work environment following the following:

- A “5 S” campaign with the goal of zero accidents.
- Basic safety campaigns such as “KY” risk prediction and “close-call” incident (Nyai hatto) reporting.
- Reductions in occupational injuries in the categories of injuries reported to OSHMS.

In terms of process safety and disaster prevention, the company engaged in systematic maintenance based on the level of importance attributed to the various pieces of machinery. The company conducted emergency drills and confirmed in a quick reporting system for use at the outbreak of an abnormal situation.

In the future, the company will strive for greater operational safety as well as waste reduction while further promoting and enhancing its RC initiatives.

### Responsible Care Activities

**NTT. NIPPON SHOKUBAI INDONESIA**

PT. NIPPON SHOKUBAI Indonesia was presented with its eighth PROPER green level recognition (a public disclosure program for environmental performance) from the central government of Indonesia. The company recorded 12 consecutive years without a lost time injury and achieved its RC targets by introducing the Corporate Philosophy of “TechnoAmenity” and by taking a new approach under the slogan “The person who notices is responsible.”

The company is committed to implementing the following initiatives through its environmental and occupational safety management systems:

- aiming at zero landfill disposal of hazardous and toxic waste and promoting the “3 Rs” (reuse, reduce, and recycle); and
- turning off lights and air conditioners except when necessary as an energy conservation measure and promoting a related campaign by means of stickers.

The company will continue to uphold its record of zero industrial accidents by means of the following initiatives:

- conducting four rounds of “KY” risk prediction and simulated-risk experience to improve employee safety awareness;
- evaluating the risks of transporting chemical substances under a product stewardship and distribution program through an audit of distributors; and
- conducting natural disaster drills for tsunamis and providing training in the handling of manufactured products every two years.

**PT. NIPPON SHOKUBAI INDONESIA**

Nippon Shokubai Indonesia, a PT. NISSO Shokubai Indonesia subsidiary, was recognized with the 2012 “Best Practices for Chemicals” from the Ministry of Industry and the Ministry of Trade and Industry of Indonesia. The company was presented with the Best Practices for Chemicals silver award and the Best Practices for Chemicals gold award. The company has been recognized with the Best Practices for Chemicals silver award since fiscal 2007 and the Best Practices for Chemicals gold award since fiscal 2009. In addition, the company recorded 10 consecutive years without a lost time injury, and has achieved its RC targets.

The company is committed to implementing the following initiatives through its environmental and occupational safety management systems:

- performing a risk assessment of transport facilities, meeting the criteria for a product stewardship and distribution program through an audit of distributors; and
- conducting safety and disaster drills for tsunamis and providing training in the handling of manufactured products every two years.

**Singapore Acrylic Pte Ltd.**

Every year, Singapore Acrylic recognizes May as safety enhancement month as part of an ongoing safety promotion initiative. This activity includes safety dialogue, a safety exhibition, a safety slogan campaign, a safety quiz, indoor safety training (covering hearing safety and breathing apparatus), and disaster response drills. Other activities include easy-to-understand display of personal protective equipment inside the plant as well as the posting of photos of disasters where they occurred.

All shift teams conduct a regular “KY” risk prediction campaign to help prevent accidents. In addition, it conducts annual “5 S” competitions and many other related projects. As a signature project for 2012, the company updated a pipe rack and labeling for easier operation and enhanced safety. Furthermore, the company re-examined its risk assessments of all activities in order to improve employee safety awareness.

Everyone at the company is committed to ongoing improvement of operational safety, achievement of zero disasters, and promotion and expansion of RC initiatives.

**NA Industries, Inc. (U.S.A.)**

The year 2012 marked a new beginning for NA Industries, Inc. (NAI). In spring of that year, the company succeeded in launching a new absorbent polymer plant. The first goal of 2012 was to foster a strong safety culture and promote teamwork. The plant operators learned cardiopulmonary resuscitation and first aid, while the employees of NAII and the contractors conducted pre-construction Process Hazards Analysis as well as pre-construction safety reviews. In addition, the employees and management representatives organized a new plant safety committee. American Acryl, the plant’s joint venture partner, and NAI discussed risks associated with the facilities of both companies through the plant safety committee on site. By introducing the E-Notify system offered by Emerg Systems, Inc., NAI can provide a timely emergency reporting service and can issue accident and disaster alerts to local authorities.

Finally, as part of their open communication with the public, NAI is actively participating in the Seashore Community Advisory Panel, an organization created by neighboring residents of the plant.

**NIPPON SHOKUBAI CO., LTD.**

Environmental and Social Report 2013
Responsible Care Activities

Initiatives of Group Companies

Group Companies outside Japan

NIPPON SHOKUBAI EUROPE N.V. (Belgium)
In 2012, the company revised its confined space operation procedures, listed all confined space operations, and improved safety measures as much as possible. Furthermore, all operators were involved in emergency response drills targeting confined space operations.

The company also installed safety lines to the roof of the production facility. For example, a worker involved in work at height, such as replacing a fan, can link to a metal cable for fall prevention. Regarding steam tracing, the company installed critical areas that carried the risk of contact with a worker. It also improved the ergonomics of the filter facilities. These innovations contribute to effortless replacement work. In addition, measures have been taken to prevent contamination with insects or other foreign objects.

SINO-JAPAN CHEMICAL CO., LTD. (Taiwan)
In 2012, each workplace unit at Sino-Japan Chemical participated in the Annual Safety and Hygiene initiative, with all cooperating and sharing their experiences. Employees were able to expand their knowledge of occupational safety and hygiene by participating in initiatives while improving the work environment and self-directed skills upgrading. At the same time, they improved personal safety awareness and risk prediction through occupational safety and hygiene lectures while renewing their risk awareness in order to reduce hazards.

NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD. (China)
Nishoku Chemical Industry continued its environmental, safety, and quality assurance production initiatives in 2012. The company obtained certification for Standardization of Production Safety from the government of China in June 2012. The company installed a rainwater drainage monitoring facility to meet the government’s new environmental regulations and updated their activated sludge treatment facility.

The company also undertakes disaster response drills in June and November each year and conducts firefighting drills jointly with members of the local firefighting team. The in-house disaster response team trains every two months to ensure it can promptly handle any disasters that might occur. With regard to occupational safety and health, the company holds a monthly safety and health meeting and measures noise, chemical concentrations, and particulate concentrations. In this way it maintains a work environment that supports employee health.

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Third-Party Review

The Japan Chemical Industry Association (JCIA) issued the “Independent Verification – Opinions” for our Environmental and Social Report 2013 (Japanese edition) in Japanese as below. It expresses verification on rationality and accuracy, and informed opinions of chemical industry specialists on the contents related to our RC activities and the characteristics of our report.

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Superabsorbent polymers are used in sanitary goods such as disposable diapers. Acrylic resins for optical materials and polymers for color resists are used in energy-efficient LCD TVs. Acrylates are used as ingredients in eco-friendly water-soluble paints. Ethylene glycol is used as a raw material in the manufacture of recyclable PET bottles. Acrylic acid derivatives are used as core materials in golf balls. Higher-alcohol surfactants and water-soluble polymers are used as ingredients in various detergents. Acrylic resins for optical materials and polymers for color resists are used in energy-efficient LCD TVs.
Providing affluence and comfort to people and society, with our unique technology.