

CSR Report 2018

NIPPON SHOKUBAI CO., LTD.



NIPPON
SHOKUBAI



Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

| Group Mission / Management Commitment |

Nippon Shokubai Group Mission

TechnoAmenity

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

Management Commitment

We conduct all of our corporate activities based upon a deep respect for humanity.

We aim at coexisting with society, and working in harmony with the environment.

We pursue technologies that will create the future.

We act on the global stage.



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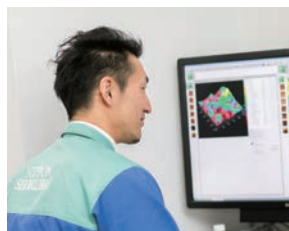
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Message from the President



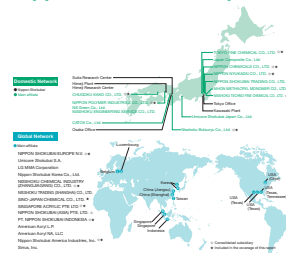
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Special Feature
Open Innovation in R&D



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Our Product Lines /
Research &
Development Highlights



| Corporate Credo |

Safety takes priority over production.

| Nippon Shokubai Code of Conduct |

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 Code of Conduct.”

1. Guided by our Group Mission 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.

The Nippon Shokubai Group seeks to raise corporate value by linking business activities to Sustainable Development Goals (SDGs)

The SDGs are 17 international goals with 169 targets related to sustainable development that are to be achieved in the 15 year period from 2016 to 2030. These goals were adopted at a UN Summit in September 2015.

As goals set to be achieved by developed and developing countries together, they feature a comprehensive approach to the issues facing the world, which range from the problems of poverty and hunger to work happiness, economic growth and climate change. Under the message of “Leave no one behind,” they call for people around the world to cooperate and work toward the resolution of problems that are on a global scale.

As a solution provider that supports the future of chemistry, our company will also continue to contribute to the achievement of SDGs.

SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD



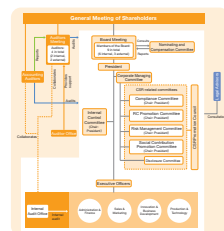
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Our Approach to Corporate Social Responsibility



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Corporate Governance



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Earning Public Trust and Contributing to Society



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Responsible Care Activities



Promoting “Reborn Nippon Shokubai 2020 NEXT,” Our Medium-term Business Plan

In pursuing our Vision for 2025, we are becoming an innovative chemical company that provides new value for people’s lives



Under the Nippon Shokubai Group’s Mission of “**TechnoAmenity** — Providing affluence and comfort to people and society, with our unique technology,” we are implementing reforms while taking a leap forward to a better future in the new era. To fulfill this mission, we set our sights on becoming an innovative chemical company that provides people with new value under our “Vision for 2025.” During the period from fiscal 2017 to 2020, we will be promoting our Medium-term Business Plan titled “Reborn Nippon Shokubai 2020 NEXT.” Even as we strive to further strengthen our existing businesses, we will continue to prioritize sustainable growth with a concerted effort across a range of new business sectors that will enable us to leverage our strengths. These include the life sciences, ICT, and energy and environment.

Our Corporate Credo — “Safety takes priority over production” — was adopted to reflect our ongoing commitment to ensuring safe and reliable operations. We remain dedicated to reconfirming our stature as a responsible chemical company that succeeds at retaining the public’s trust. Moreover, we will strive to achieve sustainability by linking all our business initiatives to the Sustainable Development Goals as a means of resolving social issues through our business operations (see page opposite).

In this edition of our CSR Report, we present the corporate social responsibility initiatives of the Nippon Shokubai Group in a manner that we believe is clear and easy to understand. We welcome your continued support and candid opinions as we pursue our various objectives, and we greatly appreciate your support of our Group’s initiatives.

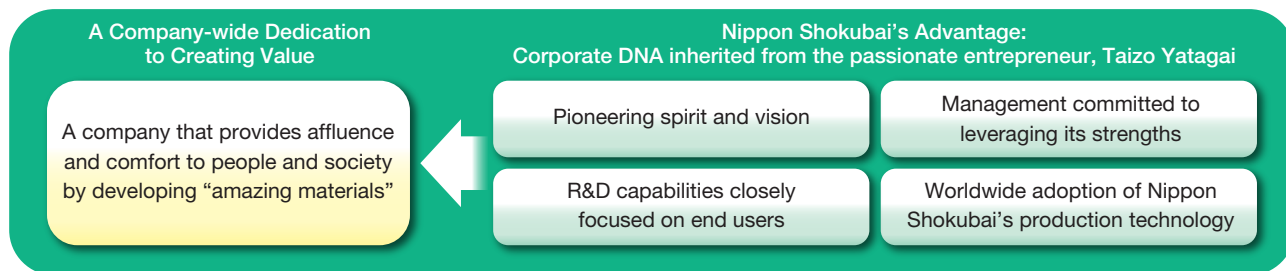
Yujiro Goto, President

A handwritten signature in black ink that reads "Yujiro Goto". The signature is written in a cursive, flowing style.

Nippon Shokubai's Commitment to Sustainability

We will continue to demonstrate the essence of the corporate DNA we have inherited from our company's second president, Taizo Yatagai, renowned as the "passionate entrepreneur." Specifically, with our attitude of "pioneering spirit and vision," we will further promote sustainability management through two avenues: addressing social issues through our business operations, and pursuing issues that form the foundation of our business operations.

Conceptual Diagram of Our Commitment to Sustainability



Achieving Sustainability



Definition

The Passionate Entrepreneur

Taizo Yatagai, our company's second president, was the inspiration for the main character in the business novel *Hono-no no Keieisha* ("The Passionate President") written by Ryo Takasugi.

Reborn Nippon Shokubai 2020 NEXT — Achieving Progress with Our Medium-term Business Plan

Our medium-term business plan — titled Reborn Nippon Shokubai 2020 NEXT — takes the form of an action plan intended to achieve our “Targets for 2020” in order to realize our “Vision for 2025.” By fiscal 2020, the final year of the plan, we intend to have established the foundation for our Group’s sustainable growth over the subsequent ten years.

Plan Outline

Vision for 2025

An innovative chemical company that provides new value for people’s lives

Business Policies

- Focusing on profitability over sales
- Safe, reliable production activities

Priority Challenge

- Survival of SAP* business
- Launch of new businesses in high-growth potential markets for our future key driver

Basic Posture

Create products and services that the market needs, and provide the products and the services when the market needs.



* Superabsorbent polymer

Policies to priority challenge

- Strengthen competitiveness of SAP business
 - Improve profitability (Survival project)
 - Strengthen R&D
- Accelerate creation of new businesses and products

Target to sustainable growth

- Develop an active corporate team and organization
- Enhance the confidence of stakeholders
- Strengthen our Group management

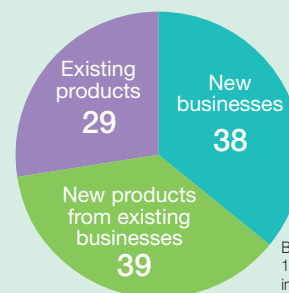
Numerical targets for 2020

Sales 400 billion yen

Sales increase during the period: 106 billion yen
(Sales of 294 billion yen in fiscal 2016 → Sales of 400 billion yen in fiscal 2020)

Ordinary income 40 billion yen (Profit margin on sales: 10%)

ROA 7.5%



Breakdown of 106 billion yen sales increase (Billions of yen)

Achievements

Strengthen competitiveness of SAP business

- Implementing the SAP Survival Project
- Summer 2018: New plant in Belgium enters commercial operation.



SAP Plant in Belgium

Accelerate creation of new businesses and products

- Collaboration with Sirrus, Inc. of the U.S.A. to commercialize new methylene malonate monomers
- July 2017: Cosmetics Business Preparation Office established.
- Commercialization of AOMA, a new functional monomer
- Start of construction of laboratory for synthesizing middle-molecule active pharmaceutical ingredients, with operation scheduled to begin in April 2019



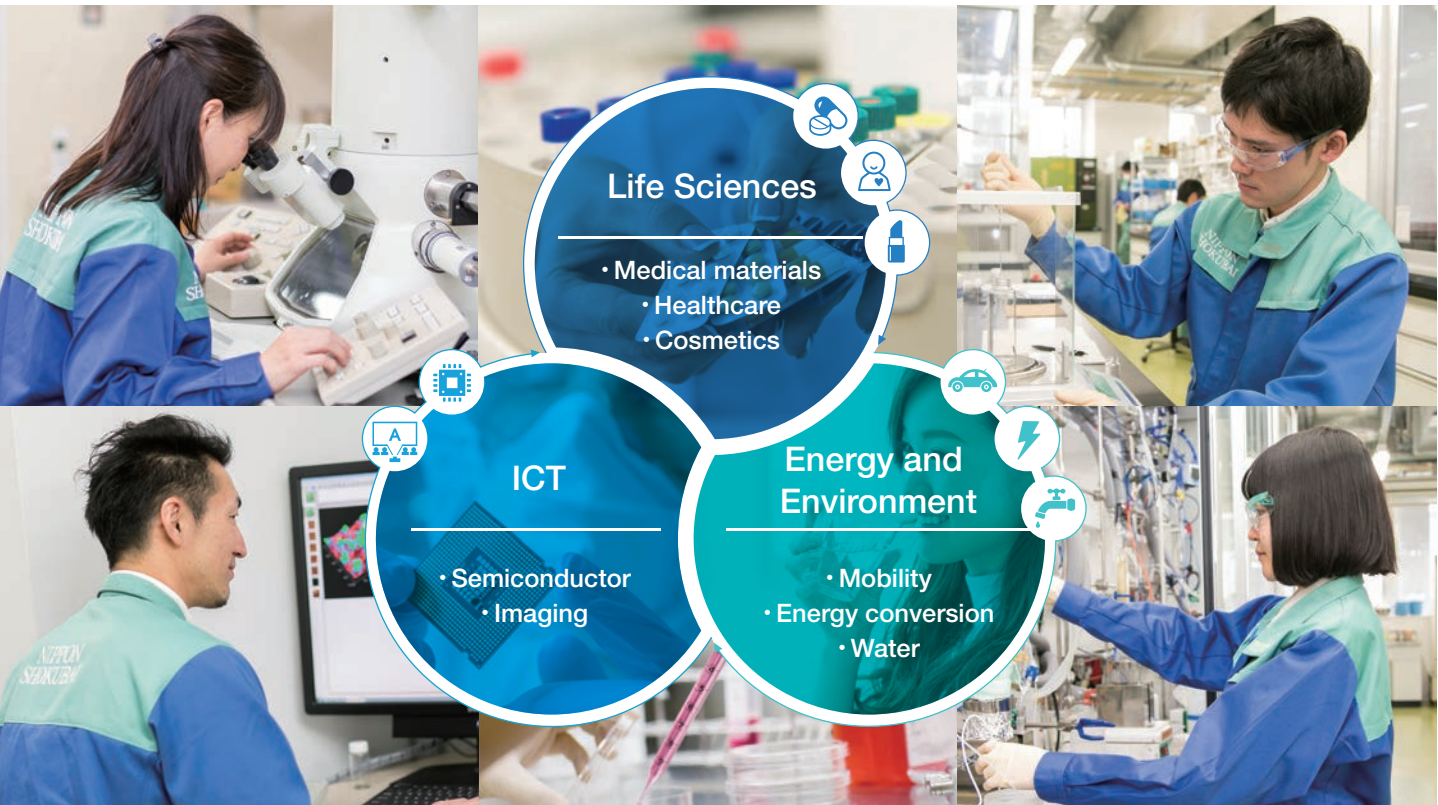
Laboratory for synthesizing middle-molecule active pharmaceutical ingredients (artist's rendering)

Develop an active corporate team and organization

- July 2017: Work Innovation Committee established

Actively Using Open Innovation

— While applying our core technological strengths, we actively seek open innovation opportunities for the development of expertise and commercialization of new products —



Yojiro Takahashi

Member of the Board, Senior Managing Executive Officer
Innovation & Business Development
(Head of Health and Medical Business Development Office,
Head of Malonates Business Development Office,
Head of Cosmetics Business Planning Office)

Identifying sectors and specifying areas

To create new businesses, we are shifting our R&D approach to focus more on the demands of growing markets. Based on market potential, sustainability and company suitability, we have selected three sectors (with eight areas) where we will allocate resources: information and communication technology (ICT), life sciences, and energy and environment.

The importance of open innovation

The creation of new businesses requires a wide range of specialties and different business models, which is a reason we need to pursue open innovation. Therefore, while strengthening our competencies with core technologies and products, we must strategically and proactively work with third parties utilizing open innovation in order to provide new products in a timely manner.

Where we are now in open innovation activity

We are advancing comprehensive cooperation in efforts that link industry and academia. We established the Nippon Shokubai Research Alliance Laboratories at Osaka University and a Sustainable Chemistry joint research chair at Kobe University. Furthermore, we are undertaking joint research with the Nanyang Technological University in Singapore and other global efforts.

Among cooperative ventures with start-up companies, we have established partnerships with and invested in multiple companies involved in peptide and nucleic acid pharmaceuticals as well as DDS. Moreover, we have been actively strengthening cooperation with businesses in Japan and abroad, including acquiring Sirrus, Inc. in the U.S.A.

Definition

DDS (Drug Delivery System)

Technology that controls drug delivery and provides sustained release to affected areas

Efforts for Open Innovation

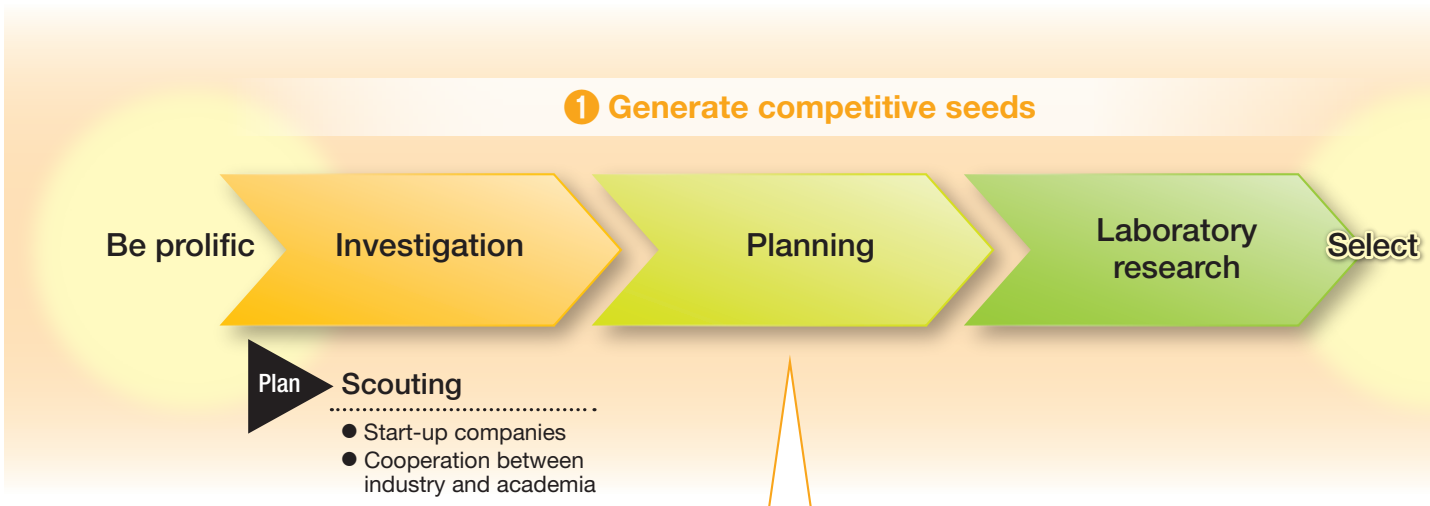
At every stage of research and development, open innovation is considered for the following three objectives.

- ① Generate competitive seeds
- ② Accelerate commercialization
- ③ Strengthen and expand businesses

Until now, with R&D we have made efforts focused particularly on, for example, joint research with universities in Japan and abroad for

generating technology and product seeds ①, and capital investments with start-up companies for accelerating commercialization ②.

In the future, we will actively utilize open innovation even more in order to further speed up the creation of new businesses.

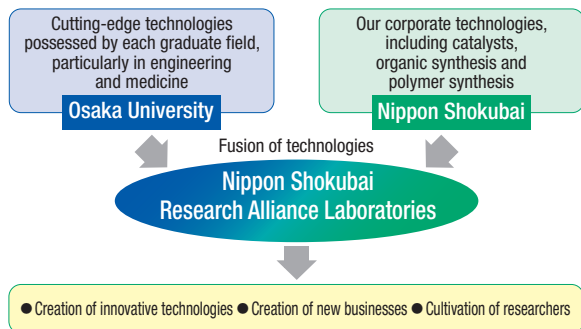


Cooperation with Universities

Nippon Shokubai Research Alliance Laboratories established in Osaka University



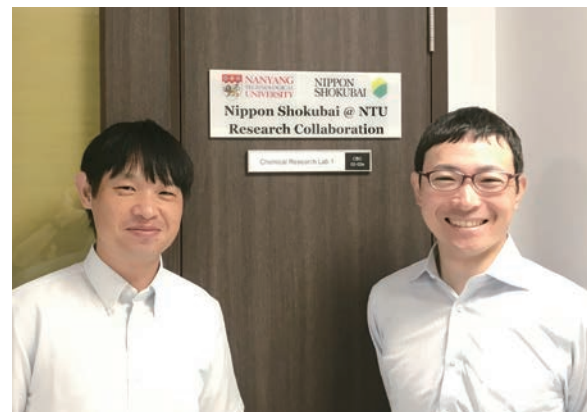
From April 2014 to March 2017, our company had established the Osaka University Nippon Shokubai Joint Research Chair for Functional Chemistry at the Osaka University Graduate School of Engineering. By fusing the cutting-edge catalyst and synthesis technologies of Osaka University with the technologies possessed by our company, we worked to create fundamental technologies for the synthesis of innovative functional chemicals. In April 2017, we ended the joint research chair, replacing it by establishing new research alliance laboratories to further accelerate new business creation and technological innovation. We seek to fuse the field of medical-engineering collaboration, which is a strength of Osaka University, with our corporate technologies, which include catalysts, organic synthesis and polymer synthesis. Furthermore, while considering all types of opportunities to collaborate with other universities and businesses, we are working with the goals of creating innovative technologies and new businesses and cultivating research personnel.



Research and development base established at Nanyang Technological University (Singapore)

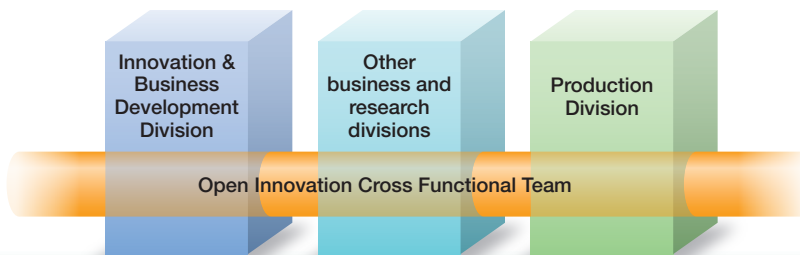


Nanyang Technological University (NTU) in Singapore is an up-and-coming university that achieved a worldwide ranking of 11 in 2017 even though less than 30 years have passed since its establishment. Our company is advancing joint research on medical polymers with NTU Associate Professor Atsushi Goto, and has assigned two researchers to this project since 2017. Utilizing the new living radical polymerization method discovered by Professor Goto, we are rapidly advancing the development of new materials that can contribute to the health and medical business. Moreover, on the development front, we will continue to match the technological seeds possessed by NTU and other research organizations in Singapore with our corporate needs and advance global open innovation.

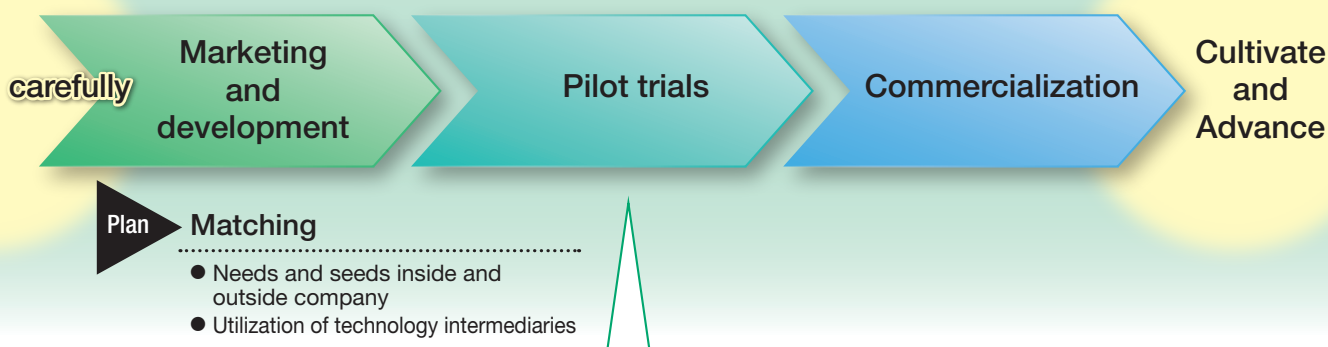


Open Innovation Cross Functional Team

To make use of open innovation strategically and flexibly, the Open Innovation Cross Functional Team, which has authority transferred from various divisions, is advancing efforts while horizontally linking departments involved in research.



2 Accelerate commercialization



Cooperation with Businesses

Aiming to establish drug development support business and undertaking cooperation with venture businesses



On the road from fundamental research to bringing a new pharmaceutical to market, there are great obstacles and what we can call a “Valley of Death.” These include long time commitments, huge investments of money, and compliance with complicated laws, regulations and other requirements. At Nippon Shokubai we want to build bridges across this “Valley of Death,” create outstanding medicines and contribute to society by providing comprehensive services from research and development to clinical research to contract manufacturing in the promising fields of peptide medicines, nucleic acid medicines and DDS. We have already established business partnerships and capital tie-ups with GlyTech, Inc., TAK-Circulator Corporation, Rena Therapeutics Inc. and other venture businesses that have good prospects. We are aiming to quickly establish drug development support business by fusing Nippon Shokubai’s manufacturing technologies and research and development abilities related to compounds with the drug development technology expertise of these partners.



Advancing a joint project for commercialization of new methylene malonate monomers with Sirrus, Inc.



In March 2017, our company acquired all the shares of Sirrus, Inc., which is based in the U.S.A., making it a subsidiary. Sirrus, Inc. is a research and development company focused on methylene malonates, which are monomers with low-temperature reactivity. Methylene malonates are new chemicals that are expected to see use in coating and adhesive fields and to be effective in reducing the use of energy and organic solvents in processes, for example. Accelerating commercialization becomes possible by matching the synthesis technologies of Sirrus, Inc. with the monomer production scaling technologies of our company. Positioning methylene malonates as new key materials, coordinated efforts by both companies are advancing with the goal of commercialization as soon as possible.



Profile of the Nippon Shokubai Group

Outline

Established	August 21, 1941
Common stock	¥25,000 million
Net sales	¥322,800 million (consolidated) ¥226,900 million (non-consolidated)
Number of employees	4,219 (consolidated) 2,253 (non-consolidated)
Osaka Office	Kogin Bldg., 4-1-1 Koraihashi, Chuo-ku, Osaka 541-0043, Japan TEL: +81-6-6223-9111 FAX: +81-6-6201-3716
Tokyo Office	Hibiya Dai Bldg., 1-2-2 Uchisaiwai-cho, Chiyoda-ku, Tokyo 100-0011, Japan TEL: +81-3-3506-7475 FAX: +81-3-3506-7598
Main Plants and Research Centers	Himeji Plant, Kawasaki Plant, Himeji Research Center, Suita Research Center

Major Product Lines

Environment & Catalysts

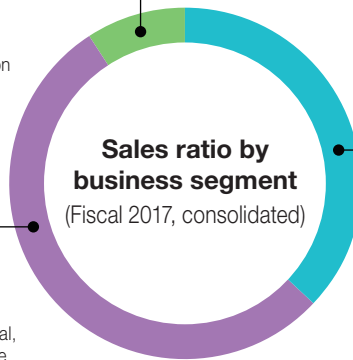
8.9%

Automotive catalysts, De-NOx catalysts, dioxins decomposition catalysts, process catalysts, waste gas treatment catalysts, materials for fuel cells

Functional Chemicals

53.9%

Superabsorbent polymers, intermediates for pharmaceutical, polymers for concrete admixture, electronic information materials, iodine, maleic anhydride, resins for adhesives, resins for paints, adhesive products



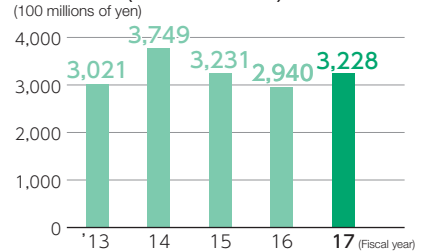
Basic Chemicals

37.2%

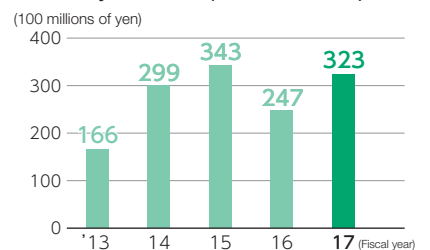
Acrylic acid, acrylates, ethylene oxide, ethylene glycol, ethanolamine, secondary alcohol ethoxylates, glycol ethers

Financial Data

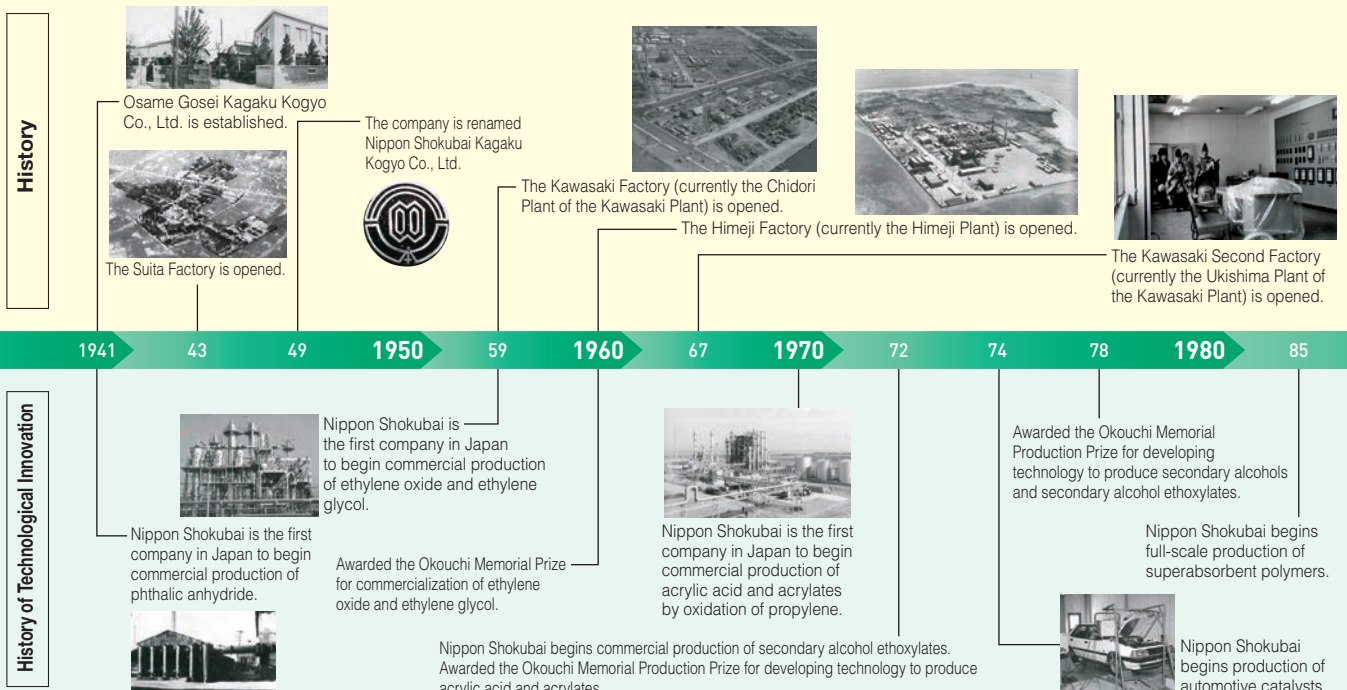
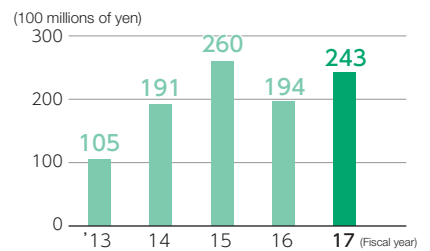
Net sales (consolidated)



Ordinary income (consolidated)



Current net income (consolidated) attributed to parent company as shareholder

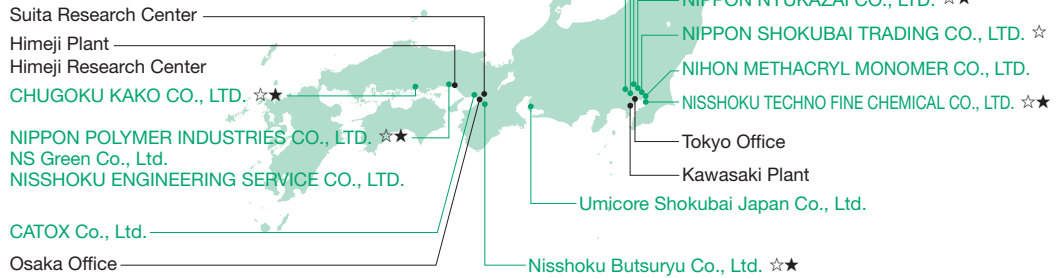


Business Locations

Together with its affiliates and trading companies, Nippon Shokubai has established a network encompassing the fields of chemicals, processing, and transportation in order to respond accurately to growing customer needs. Our Group was formed to ensure improved global production and a more effective supply chain (as of April 1, 2018).

Domestic Network

- Nippon Shokubai
- Main affiliate



Global Network

- Main affiliate

- 1 NIPPON SHOKUBAI EUROPE N.V. ☆☆
- 2 Umicore Shokubai S.A.
- 3 LG MMA Corporation
- 4 Nippon Shokubai Korea Co., Ltd.
- 5 NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD. ☆☆
- 6 NISSHOKU TRADING (SHANGHAI) CO., LTD.
- 7 SINO-JAPAN CHEMICAL CO., LTD. ☆
- 8 SINGAPORE ACRYLIC PTE LTD ☆☆
- 9 NIPPON SHOKUBAI (ASIA) PTE. LTD. ☆
- 10 PT. NIPPON SHOKUBAI INDONESIA ☆☆
- 11 American Acryl L.P.
- 12 American Acryl NA, LLC
- 13 Nippon Shokubai America Industries, Inc. ☆☆
- 14 Sirrus, Inc.



☆☆ Consolidated subsidiary
 ☆ Included in the coverage of this report

NA Industries, Inc. (currently Nippon Shokubai America Industries, Inc.) is established in Tennessee, U.S.A.



The company is renamed NIPPON SHOKUBAI CO., LTD.

PT. Nisshoku Tripolyta Acrylindo (currently PT. NIPPON SHOKUBAI INDONESIA) is established in Indonesia.

NIPPON SHOKUBAI EUROPE N.V. is established in Belgium.

NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD. is established in China.

SINGAPORE ACRYLIC PTE LTD is established through a business swap with Sumitomo Chemical.

NIPPON SHOKUBAI (ASIA) PTE. LTD. merges with Singapore Glacial Acrylic Pte. Ltd.

Nippon Shokubai acquires majority of shares of NIPPON NYUKAZAI CO., LTD. and SINO-JAPAN CHEMICAL CO., LTD.

Nippon Shokubai acquires Sirrus, Inc. as a subsidiary.

The Suita Plant is closed (R&D operations in the area are bolstered).

87 88 1990 91 96 99 2000 03 04 06 08 09 2010 13 14 15 2017

The Himeji Plant discontinues production of phthalic anhydride. The Himeji Plant installs gas turbine cogeneration facilities.

Nippon Shokubai begins production of polymers for concrete admixture.

Nippon Shokubai begins commercial production of fuel cell materials.

The Kawasaki Plant introduces a new ethanolamine production process (with catalyst).



Nippon Shokubai begins production of ACRYVIEWA.

Awarded the Okouchi Memorial Production Prize for new diethanolamine production technology.

Awarded the Chemical Society of Japan Award for Technical Development for developing and commercializing ACRYVIEWA.

Nippon Shokubai begins commercial production of IONEL electrolyte for lithium-ion batteries.

Our Product Lines / Research & Development Highlights

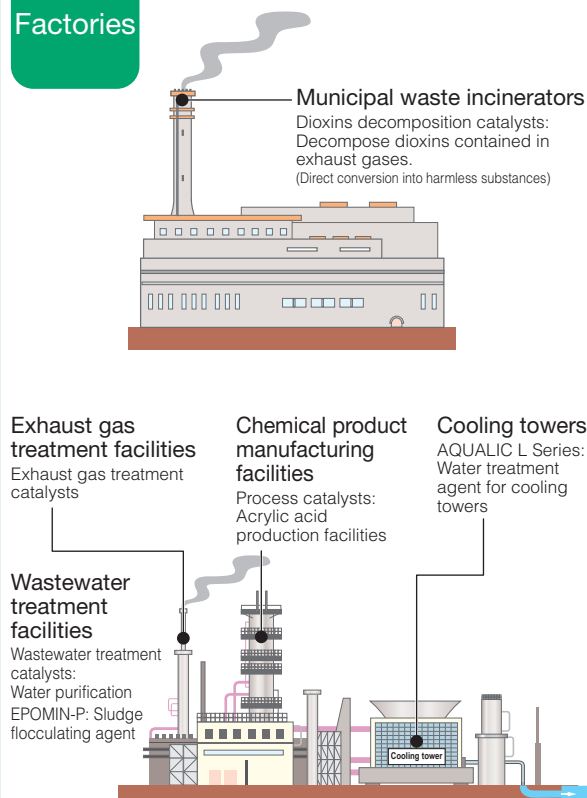
Our Product Lines

Our products and technologies contribute to an improved society and a better life in myriad industries.

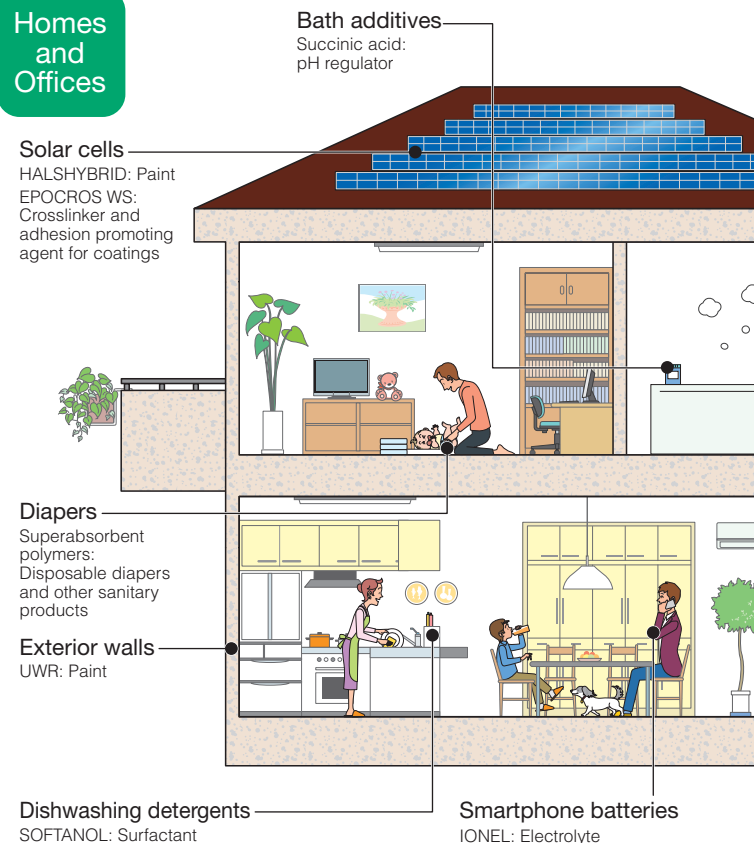
Products that contribute to the environment

Environmental Considerations	Reasons	Applications	Specific Products
Energy conservation and CO ₂ reduction	Energy conservation through product use	Solid oxide fuel cell materials Lithium-ion battery materials Automotive damping materials UV-curable reactive diluents Resist agents Optical electronic materials Particulates for light diffusion	Electrolyte sheets for solid oxide fuel cells IONEL ACRYSET VEEA ACRYCURE, EPOCEL ZIRCOSTAR EPOSTAR
Waste reduction	Waste reduction due to high durability	Concrete additives	AQUALOC, AQUAGUARD
Chemical emission reduction	Suppression of volatile organic compound emissions	Water-based paints	ACRYSET, EPOCROS
Air and water pollution prevention	Suppression of NO _x , SO _x , dioxin and other pollutant emissions Processing of wastewater	Removal of NO _x , SO _x , dioxin and other pollutants from emissions Oxidation and decomposition of harmful substances in wastewater Water treatment additives (floculants)	Automotive catalysts, denitrification catalysts and equipment Dioxin decomposition catalysts and equipment, etc. Wet oxidation catalysts and equipment EPOMIN
Water resource conservation Effective water resource utilization	Reduction of water use	Hollow fibers Liquid detergent builders	Polyvinylpyrrolidone AQUALIC L
Biodiversity conservation	Biodegradability (does not persist for long in the environment)	Detergent ingredients	SOFTANOL HIDS

Factories



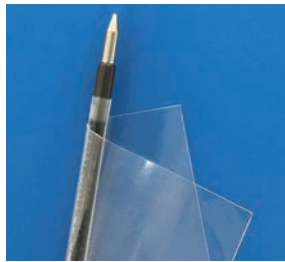
Homes and Offices



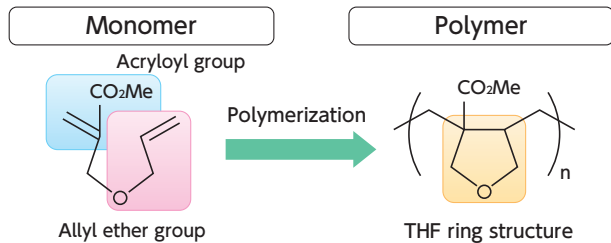
Research & Development Highlights

AOMA cyclopolymerization monomer

The AOMA cyclopolymerization monomer developed by our company has outstanding dilution and UV curing properties. Along with adding both hardness and flexibility to cured products, it also provides adhesiveness to various substrates. Due to these features, AOMA is expected to be utilized in UV curing technologies, which use processes that are harmonious with the environment because they do not emit VOCs or other environmental pollutants and they are excellent at conserving energy. Expansion of its use is anticipated in paints, printer inks, coatings, adhesives and other fields.



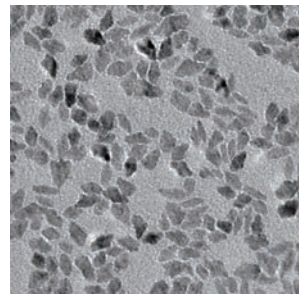
Film that achieves both hardness and suppleness



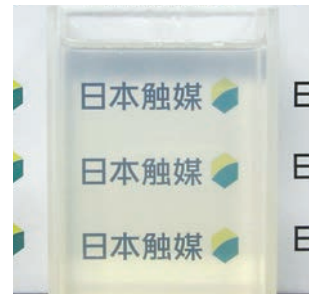
ZIRCOSTAR dispersed zirconia nanoparticles*

The zirconia nanoparticles we developed with our proprietary technology exhibit good dispersion in a variety of organic solvents and resins. Resins in which these nanoparticles are dispersed demonstrate good optical characteristics (including high refractive index and high transparency), which are not possible with conventional materials. Materials incorporating ZIRCOSTAR are most suitable for optical material and electronic material applications such as plastic lenses and displays. This product is especially suitable as a contributor to the energy-efficiency of portable devices such as smartphones and tablet PCs, contributing to extended operating time when battery-powered.

* Zirconium oxide whose particle size is maintained at nano scale (10⁻⁹ m)



Electron micrograph



Dispersion in benzyl acrylate

Shampoos
SOFTANOL: Surfactant
Polyethyleneimine: Surfactant

Laundry detergents
SOFTANOL: Surfactant
Ethylene oxide: Surfactant
Ethanalamines: Synthetic detergent
HIDS biodegradable chelating agent: Laundry detergent
AQUALIC L Series: Builder for detergent

Displays
ACRYVIEWA and resistant plastics for color filters:
LCD TVs and smartphones

Structures

Large piers
AQUALOC: Polymers for concrete admixture

Automobiles

Engine parts
IMILEX-C & POLYIMILEX-PML:
ABS resin and acrylic resin for head cover

Dashboard
IMILEX-P & POLYIMILEX-PAS:
Instrument panel
EPOCROS:
Dashboard and body adhesives

Exhaust pipe
Automotive catalysts:
Eliminate harmful substances from exhaust emissions.

Bumpers
EPOCROS K:
Paint

Automotive battery
IONEL

Tires
EPOCROS:
Tire cord

Wheel covers
POLYIMILEX-PSX:
Heat-resistant nylon resin

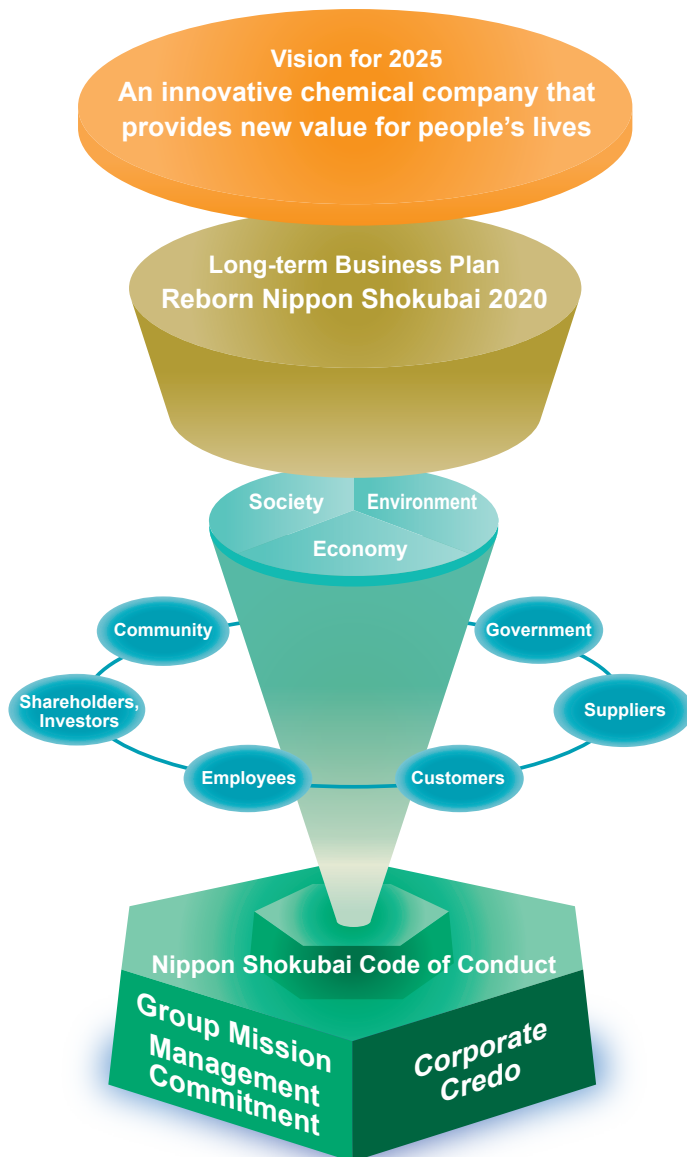
Chassis
EPOCROS WS: Chassis
ACRYSET: Vibration damping material for upper surface of chassis and sides

Our Approach to Corporate Social Responsibility

CSR Concept

Our Corporate Credo, “Safety takes priority over production,” guides us in all our activities. In accordance with our Group Mission, **TechnoAmenity**, we have established our Management Commitment and Code of Conduct. We take a comprehensive view of our corporate actions that encompasses the economy, society, and the environment. We therefore prioritize corporate ethics, Responsible Care, risk management, human rights and labor, information disclosure, social contribution, and corporate governance. In implementing sustainable actions to increase corporate value, we emphasize dialogue with our customers, business partners, shareholders and investors, public administrators, employees, the communities we serve, and all other stakeholders.

This CSR concept is the foundation underpinning our Vision for 2025. We intend to achieve this vision by implementing Reborn Nippon Shokubai 2020, our long-term business plan, and contributing to the emergence of a sustainable society.



Formulation of CSR Medium-term

Under “Reborn Nippon Shokubai 2020 NEXT” (2017–2020), one priority issue that is intended to strengthen the company’s management foundation is to become “a company gaining further public trust as a responsible chemical company.”

Toward that end, we have highlighted the importance of promoting company-wide CSR activities; therefore, we have

CSR Medium-term Targets and Initiatives

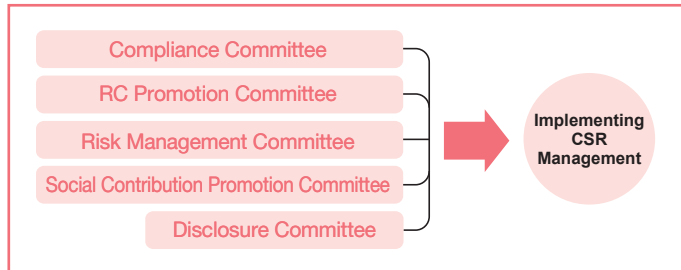
Stakeholder	Subject	
Company-wide	Corporate Ethics	
	Risk Management	
	Corporate Governance	
	Information Security	
Environment	Environmental Protection	Preventing Global Warming
		Waste
		PRTR
Customers	Quality	
	Chemical Safety	
Suppliers	Logistics Safety	
	Procurement	
Shareholders & Investors	Information Disclosure	
Community	Social Contribution	
	Process Safety and Disaster Prevention	
	RC Communication	
Employees	Human Resources	
	Occupational Safety	
	Occupational Health	
Government	Collaboration	

Targets and Initiatives (2017–2020)

formulated CSR medium-term targets and initiatives spanning the same four years, envisioning this period as the age of the “Reborn Nippon Shokubai 2020 NEXT.”

We will do our best to achieve our CSR medium-term targets and initiatives, and we will announce our achievements and progress in our annual CSR Reports.

CSR Implementation Structure



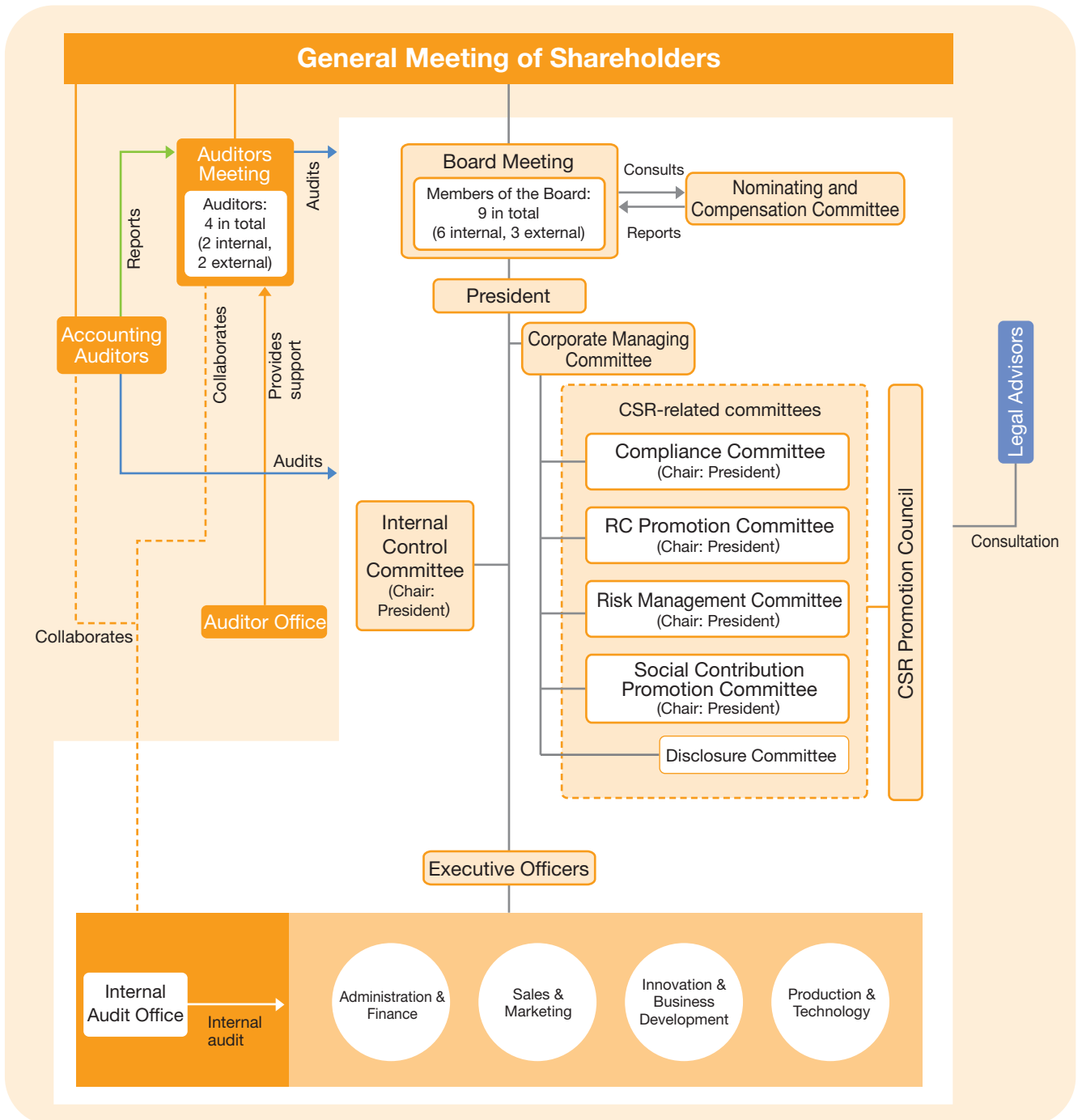
Medium-term Targets & Initiatives	Achievements (Fiscal 2017 Results)
To continue to emphasize corporate ethics while strengthening our regulatory compliance structure and enhancing various training programs	<ul style="list-style-type: none"> Implemented corporate ethics training for general employees, and training in various regulations (cross-border competition laws, cross-border trading risk, loan management, cross-border anti-bribery laws, insider trading regulations). Implemented corporate ethics training for officers and managerial staff of affiliated companies in Japan.
To endeavor to expand our risk management while regularly analyzing risk, including undertaking a review of our current Business Continuity Plan	<ul style="list-style-type: none"> Reviewed risk survey forms in order to more accurately clarify risks to be addressed. Reviewed the Business Continuity Plan regarding our response to large-scale earthquakes.
To further strengthen and enhance corporate governance, including improving the functioning of the Board Meeting, in order to enhance corporate value and achieve sustainable growth	<ul style="list-style-type: none"> Early publishing of the convocation notice for the General Meeting of Shareholders on our website (about four weeks in advance) prior to the mailing Enhanced provision of information to attendees of the Board Meeting based on implementation of board effectiveness evaluation and results.
To revise regulations covering information management in order to focus on the utilization of electronic data To establish an information security system to implement the above	Formulated basic information security regulations and related regulations.
1) To reduce energy consumption by an amount equivalent to 8,000 kL of crude oil (over 4 years) 2) To reduce energy intensity by 5% from fiscal 2015 levels by fiscal 2020 3) To reduce CO ₂ emissions intensity (by energy origin) by 5% from fiscal 2015 levels by fiscal 2020 4) To reduce fuel consumption intensity for road transport by 5% from fiscal 2015 levels by fiscal 2020; to promote modal shift	1) Reduced energy consumption by 2,168 kL of crude oil equivalent 2) Reduced energy intensity by 9.3% from fiscal 2015 levels. 3) Reduced CO ₂ intensity (energy origin) by 11.1% from fiscal 2015 levels. 4) Increased fuel consumption intensity by 0.7% from fiscal 2015 levels. Continued to promote modal shift.
To maintain zero emissions (Quantity of final off-site landfill) ≤ (Total amount of waste generated × 0.1%)	Continued to implement zero emissions policy.
To reduce emissions of substances subject to the PRTR Law by 25% from fiscal 2015 levels by fiscal 2020	Reduced emissions of substances subject to the PRTR Law by 9.8% from fiscal 2015 levels.
Promotion of company-wide quality initiatives 1) To improve customer satisfaction 2) To attain more trust from customers 3) To achieve “Zero quality complaints”	Company-wide quality initiatives implemented: 1) Improved customer satisfaction. 2) Implemented initiatives to increase customer trust. 3) One serious quality complaint was filed.
To achieve zero problems related to chemical safety (legal or social problems)	Registered zero legal or social problems related to chemical safety.
To achieve zero accidents and disasters related to logistics	Registered zero accidents and disasters related to logistics.
To continue implementing green procurement To promote CSR procurement.	Implemented continual surveys on green procurement and prepared for a change in survey tools. Initiated formulation of CSR procurement policy.
To continue to disclose information in accordance with our corporate governance code and to aim for more relevant responses in order to maintain high-quality constructive dialogue with shareholders and investors.	<ul style="list-style-type: none"> Posted our corporate governance system and various reports on our corporate website. Continuously disclosed financial results and other materials. Conducted IR meetings for analysts and institutional investors in May and November and held an IR meeting for individual investors in December.
To enhance the social contribution initiatives of the Nippon Shokubai Group as a whole To formulate and implement the Third-term Plan (fiscal 2018–fiscal 2022) addressing our forest development initiatives	<ul style="list-style-type: none"> Group companies also took part in forest development initiatives. Formulated our Third-term Five-year Plan (fiscal 2018–2022) with the addition of new initiatives for Indonesia.
To achieve zero severe process safety accidents	Registered zero severe process safety accidents.
To promote dialogue on Responsible Care initiatives with local residents and implement appropriate information disclosure	Participated in a dialogue on Responsible Care with local residents (Kawasaki).
To identify and train leaders who can lead the organization; to promote Diversity & Inclusion	<ul style="list-style-type: none"> Implemented new company-wide training for division managers, manufacturing managers, and line managers in order to strengthen the development of leadership personnel. Implemented training for female leaders and their supervisors as a measure to promote women’s participation and advancement in the workplace.
To achieve zero injuries with or without loss of workdays, including contractors	Target not reached: Registered 4 injuries with loss of workdays and 9 injuries without loss of workdays.
To provide all workers with a supportive and ideal work environment; to promote a healthy work-life balance	<ul style="list-style-type: none"> Implemented planned reduction of overtime hours through regular meetings of Labor-Management Committee. Organized the Working Reform Group under the Work Innovation Committee and initiated policy review to support employees’ diverse work styles.
To continue to cooperate with the administration through industrial associations and other avenues	Participated in a plan to contribute to emergence of a low-carbon society and reported the results.

Corporate Governance

Under Nippon Shokubai Group's Mission of **TechnoAmenity** — “Providing affluence and comfort to people and society, with our unique technology” — our goals are to emerge as an innovative chemical company that provides new value for people's lives, to earn the greater confidence of the public as a responsible chemical company, and to become a company that all can take pride in, including our varied stakeholders. In this way we will increase our corporate value and achieve sustainable growth.

We consider the achievement of viable corporate governance as essential and have adopted initiatives toward that end: we are securing the rights and equality of shareholders and maintaining open dialogue; collaborating with various stakeholders as appropriate; disclosing information as appropriate and ensuring transparency; ensuring the roles of the Board Meeting and management teams related to their appropriate execution of duties; ensuring appropriate supervision of the execution of these duties; and strengthening and enhancing internal control systems.

Our corporate governance system (as of April 2018)



Roles and Functions of Various Bodies and Committees

Board Meeting

Comprising the nine members, including three external members, the Board Meeting supervises business operations of each member of the Board through reports, deliberations, and resolutions regarding important matters. In general, it convenes monthly under the chairmanship of a member of the Board selected from the members of the Board who are not executive officers by a resolution of the Board Meeting. Four auditors — two external and two internal — also attend to give advice and state their opinions as appropriate when necessary.

Corporate Managing Committee

Comprising the president and executive officers appointed by the president, this committee generally convenes twice monthly (with all executive officers in attendance at one of these meetings) to deliberate items related to the implementation of basic policies and important management issues. In addition, regarding proposals discussed by the Corporate Managing Committee, important issues involving those proposals are forwarded to the Board Meeting for their consideration.

Auditors Meeting

Comprising two external auditors and two internal auditors, this meeting convenes monthly in general, submits reports, and engages in discussions and deliberations on important matters.

Nominating and Compensation Committee

An advisory body of the Board Meeting, this is a voluntary organization comprising three or more members of the Board (including a majority of external members). It advises on draft nominations of candidates for the member of the Board and auditor positions and on compensation and bonuses for the members of the Board.

Internal Control Committee

Under the chairmanship of the president, this committee has established a system to ensure the reliability of financial reporting as enforced by the Financial Instruments and Exchange Act. It also seeks to process company operations more efficiently and effectively.

Compliance Committee

Chaired by the president, this committee improves and strengthens the company-wide system for addressing corporate ethics issues and compliance with laws and regulations.

RC Promotion Committee

Chaired by the president, this committee promotes the company's Responsible Care initiatives. It formulates the RC Promotion Basic Plan and focuses on further improving safety and quality while addressing environmental issues.

Risk Management Committee

Chaired by the president, this committee implements measures as appropriate in response to various wide-ranging risks to which our Group is exposed.

Social Contribution Promotion Committee

Chaired by the president, this committee promotes social contribution initiatives by focusing on further strengthening company-wide social contribution policy and by formulating annual, medium-term, and long-term activity plans.

Disclosure Committee

In order to contribute to management transparency and fulfill our social responsibilities while ensuring that all stakeholders have a better understanding of our company, this committee supports our efforts to disclose information on our company and Group companies fairly and appropriately and in a timely manner.

CSR Promotion Council

This council investigates and discusses issues related to our CSR, formulates plans, and organizes the progress of the various CSR-related committees.

Our Policy to Promote Constructive Dialogue with Shareholders and Investors

As a basic policy of our approach to IR, we undertake fair and timely information disclosure and release clear and accurate information. We strive to promote constructive dialogue with our shareholders and investors in order to contribute to the sustained growth of our company and enhancement of our medium- and long-term corporate value.

Promoting Constructive Dialogue with Shareholders and Investors

We are implementing the following initiatives to promote constructive dialogue with shareholders and investors.

Initiative	Content
General meeting of shareholders	<ol style="list-style-type: none"> 1. We use visual techniques when reporting our management review and when deliberating proposals during the general meeting of shareholders, as this enables shareholders to develop a deeper understanding. In addition, we hold a shareholder round-table meeting after the annual general meeting of shareholders to promote smooth communication between management and shareholders. 2. For the convocation notice of the general meeting of shareholders, we include graphs and illustrations for clarity and understanding. 3. To enable many more shareholders to attend our annual general meeting of shareholders, we schedule our meeting about one week before the day on which many other Japanese companies tend to hold their shareholders' meetings.
IR meeting for individual investors	We hold an IR meeting for individual investors (irregular, aiming for once annually).
Presentations for analysts and institutional investors	We hold IR meetings for analysts and institutional investors, and we disclose information on our full-year and first-half financial results for the fiscal year as it is released.
IR meeting for offshore investors	We hold IR meetings for offshore investors on an irregular basis.
Publication of IR data on website	Our website lists financial results and other disclosure materials; annual securities reports and quarterly reports; convocation notices for the annual general meeting of shareholders; notices of resolutions; business reports; IR meeting materials; and other presentation materials on a timely basis. In addition, we follow a fixed schedule for posting English-language translations of the briefing materials of our annual and quarterly financial results; convocation notices for our annual general meeting of shareholders; IR meeting materials; and the English-language edition of our Annual Report.
Others	For shareholders, we send out our Business Report in June and December.



IR meeting



Annual Report 2017

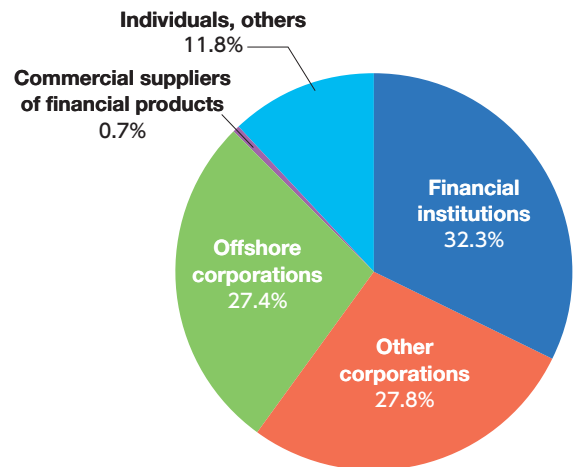


Website



105th Business Report

Distribution Breakdown (as of March 31, 2018)



We remain committed to various group-wide initiatives intended to further improve and strengthen our corporate ethics and legal compliance systems.

Rank-based training

We provide training and lecture sessions in corporate ethics targeted to three specific employee ranks: managerial employees, mid-level employees, and rank-and-file employees (including entrusted workers and dispatched workers from temporary agencies). We require all employees to attend such sessions at least once every three years.

In fiscal 2017, we conducted a total of 36 corporate ethics trainings for rank-and-file employees with over 800 people participating.

In these trainings, we shared the importance of “not doing bad things” because the thoughtless words and actions of just one person have negative impacts on workplace colleagues and even the company as a whole. Moreover, in addition to “not doing bad things” individually, which is to be expected, we also emphasized “doing what you think is good (for other people, the workplace and the company)” since “pretending not to see” troublesome behaviors of colleagues is the same as not nipping the buds of greater future troubles. In addition, participants also learned that the actions of each individual contribute to preventing corporate scandals and cultivating a healthy corporate culture.



Rank-based training

Awareness initiatives in the workplace

In order to promote greater penetration and adoption of corporate ethics in the workplace, we conduct corporate ethics training sessions in various workplaces once every six months. These training sessions have become well established, as they offer opportunities for workplace discussion. They are based on a training program covering violations of corporate ethics and legal violations and the like that we created in reference to situations that actually arose in other companies. We have been undertaking these efforts at domestic Group companies since January 2018.



Workplace training

Corporate Ethics Guidebook distribution

We have prepared the Nippon Shokubai Corporate Ethics Guidebook, and we distribute it to our employees and revise it as appropriate. In addition, we have also prepared the Nippon Shokubai Group Corporate Ethics Guidebook for domestic Group companies, and we distribute it to the employees at each company. These guidebooks have content that serves to increase individual awareness of corporate ethics and support learning activities. They include behavior guidelines that should be followed not only in daily work but also in private life, commentaries and a Q&A section, for example.



Nippon Shokubai Corporate Ethics Guidebook



Nippon Shokubai Group Corporate Ethics Guidebook

In Focus

Event welcoming Shoko Sasaki, a pro golfer sponsored by our company, to the Kawasaki Plant

We create opportunities for our employees to interact with the pro golfer Shoko Sasaki who we sponsor. Following a similar event at our Himeji Plant, we invited Ms. Sasaki to our Kawasaki Plant in January 2018. In addition to showing her around the plant and conducting experiments using our products, we also held a golf putting competition.

Our support site for Shoko Sasaki, along with her personal profile and professional accomplishments, also has a photo gallery and a “Shoko Sasaki preparing for the 2018 golf season” feature (in Japanese).

Website: <http://www.shokubai.co.jp/ja/sasaki/index.html>

Pro golfer Shoko Sasaki



We are accurately identifying risks that accompany changes in the management and business environments and that could impact the long-term continuation of our Group, and we are implementing a variety of measures to respond to those risks.

Overall risk evaluations (impact × frequency/probability)

In order to devise and implement effective countermeasures for the risks that threaten our Group, we give risks three-level (high, medium or low) overall risk evaluations based on the impact of the risk occurring and its frequency/probability. Among these risks, we clarify the priority of those that are ranked high or medium and consider risk controls for each.

Risk investigations

In order to accurately understand risks that require responses, every year we distribute risk tables and risk questionnaires not only to every division in our company but also to our Group companies. We also bring risks to the surface, conduct overall evaluations of them, and check the status of risk control implementation, for example. Moreover, we are working to reduce risks using a PDCA cycle by feeding back results.

Business Continuity Management (BCM)

We have established a Business Continuity Plan (BCP) with countermeasures for earthquakes, influenza outbreaks and other incidents. We are working to strengthen Business Continuity Management (BCM) by regularly reviewing the BCP, as well as by implementing earthquake response training and other measures.



Earthquake response training



Earthquake response training

From the procurement of raw materials to manufacture, sale, use and disposal, efforts to minimize product environmental impacts throughout their lifecycles have come to be demanded around the entire world. With awareness of the CSR procurement approach, we will also strive to further raise our status from the current level and increase our corporate value.

CSR procurement initiatives

We put our Group Mission into practice throughout the supply chain for our products.

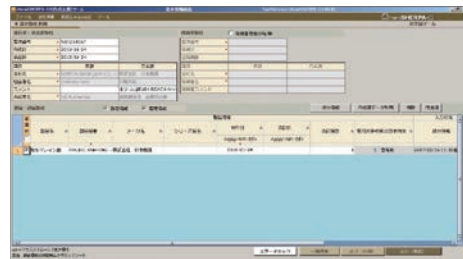
In order to provide safe and reliable products, we undertake raw material procurement based on our CSR Promotion Rule and Responsible Care Promotion Rule in cooperation with our suppliers and business partners.

We are now preparing a CSR Procurement Policy in order to establish CSR procurement through the whole supply chain.

We have been confirming that we do not procure so-called conflict minerals in order to fulfill our social responsibilities. We continuously monitor the actual situations of suppliers and stop procurement promptly if the use of conflict minerals is discovered.

Green procurement initiatives

For substances that are regulated or highly hazardous, we have independently assigned them to two categories: “prohibited substances” and “restricted substances.” We are promoting the development of green products and the procurement of raw materials with low environmental impact while determining and controlling the inclusion of such substances in our products. For information transmission sheets, we have switched from MSDSplus/AIS used in the past to chemSHERPA, which was developed under the guidance of the Ministry of Economy, Trade and Industry.

chemSHERPA
(included substance survey)

Definitions

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 companies in their purchase of raw materials and parts for products from suppliers to promote the preferential selection of products with the least environmental impact.

Conflict Minerals

Gold (Au), tantalum (Ta), tungsten (W) and tin (Sn) are being mined and sold by local armed groups in the Democratic Republic of the Congo and adjoining countries.

MSDSplus/AIS

These basic information transmission sheets, which are recommended by the Joint Article Management Promotion-consortium (JAMP), convey information about chemicals contained in products. The limit of their application is the end of June 2018.

chemSHERPA

This shared system for transmitting information about chemicals contained in products to supply chains was developed under the leadership of the Ministry of Economy, Trade and Industry in Japan. Utilization began in October 2015.

In keeping with our policy on social contribution initiatives, we are promoting practices that complement our Management Commitment to coexist with society and maintain harmony with the environment.

Our Policy on Social Contribution Initiatives

Guided by the Nippon Shokubai Group Mission of “**TechnoAmenity**,” we have adopted a number of social initiatives. These include maintaining clear and open communication with the public as a good corporate citizen that protects the natural environment, works in harmony with local communities, and trains the next generation.

Protecting the Natural Environment

>>> Forest development initiatives

In order to minimize global warming and preserve biodiversity, our employees have volunteered to protect and restore the natural environment. Through these initiatives, we aim to train individuals who can think independently and take action on the environment.

Contributing to Our Forests and Water Resources

Location: Akasai Valley, Hara, Haga-cho, Shiso-shi, Hyogo prefecture
 Activities: Forest improvement, river biological surveys, and other activities
 Start of activity: November 2008

In order to preserve beautiful forests for future generations, we have been, for example, undertaking management of the headwater forest in the Akasai Valley where originates the Ibo River that passes by our Himeji Plant. In addition, we are learning to impart the importance of protecting biodiversity through our research on the creatures inhabiting the Akasai River.

In May, August and October of fiscal 2017, we undertook three initiatives. Our August activity included collaborating with professors and students of a university on a survey of creatures and the water quality of the river.



Water quality survey of Akasai River

Contributing to the “Yugawara Myriad Leaves Forest”

Location: Kajiya, Yugawara-machi, Ashigarashimo-gun, Kanagawa prefecture
 Activities: Forest improvement, nature observation tours, and other activities
 Start of activity: November 2013

In the headwater forest of upper reaches of the Shinzaki River in Yugawara-machi, we conduct forest improvement and nature observation tours. Working together with local residents, it has become a place to interact with and nurture the forest.

In May and October of fiscal 2017, we undertook two initiatives. In the autumn, we undertook forest thinning and water resource management activities with the people of Yugawara-machi.



Yugawara Myriad Leaves Forest

Japan-China Friendship Forest Development and Global Warming Prevention

Location: Ejin Horo Banner, Inner Mongolia Autonomous Region, China
 Activities: Afforestation, maintenance, management, and the like
 Start of activity: October 2008

In order to prevent desertification in inland China and regenerate the vast forests that were once there, we have been undertaking tree planting at this area.

In fiscal 2017, we traveled to the area in October and checked the growth of the over 1,000 trees that had been planted in the previous nine years.



Landscape in 2008 at beginning of efforts



Landscape in 2017

Note: The forest development initiatives of Nippon Shokubai are undertaken in cooperation with NPOs through the Green Fund of the National Land Afforestation Promotion Organization.

Social Contribution

Conserving and popularizing the *Nojigiku* chrysanthemum

In order to protect, conserve, and popularize the endangered *nojigiku* chrysanthemum, the prefectural flower of Hyogo, our Himeji Plant has cultivated 160 varieties of this flower, including foundation stock, in a 2,000-square-meter green yard by the plant.

Cultivation began in 1972 and by 1974 the Himeji Plant began distributing seedlings annually in cooperation with Hyogo prefectural government.

In fiscal 2017, we distributed 21,000 seedlings to 249 organizations, including local governments, kindergartens, elementary and junior high schools, and community associations.



Nojigiku in a conservation garden

Working in Harmony with Local Communities

Cleanup campaign

We conduct periodic cleanups of the environs around all our plants as a local beautification initiative.

In the Suita district, we are participating every year in the Kanzaki Riverbank Cleanup Campaign that is conducted as part of the Adopt-a-River Program promoted by Osaka Prefecture.



Cleanup activity

Sweet potato harvest party

We grow sweet potatoes in the potato fields in the green yard of the Himeji Plant. Every year, we invite neighborhood kindergartens and nursery school children to enjoy harvesting our crop of sweet potatoes. We have been holding this activity since 1971, as it has helped us forge strong ties in the community. In fact, some of the children who harvested potatoes in the past are now employed with us.

In fiscal 2017, about 1,000 preschoolers and their parents took part.



Children harvest potatoes

Training the Next Generation

Children's Chemistry Experiment Show

For the children who will form the next generation (mainly elementary and junior high school students), we have been presenting an Experiment Show titled "Superabsorbent Polymer, the Mysterious Powder." The children enjoy experimenting with chemistry and take great interest. In fiscal 2017, we held shows at the following venues.

Sakurayama Park Festival/Science Booth Exhibit

Date: July 22–23, 2017
Site and Sponsor:
Himeji City Science Museum
Participants: 250

Children's Chemistry Experiment Show 2017

Date: October 21–22, 2017
Site: Kids Plaza Osaka
Sponsor: "Dream Chemistry 21" Committee
Participants: 300



Children's Chemistry Experiment Show

Hosting internship trainees

Our Himeji and Kawasaki plants and our Suita Research Center provide internship opportunities that offer training for students from technical colleges.

In fiscal 2017, a total of 26 students from 19 colleges gained experience and skills — such as how to take measurements with analytical instruments — through this program.



Internship

>>> Respect for human rights

Under our Management Commitment to conduct all corporate activities with a deep respect for humanity, we strive to provide and maintain a positive work environment while facilitating a high level of job satisfaction for every employee.

Behavior guidelines related to respecting human rights have been established in the Nippon Shokubai Corporate Ethics Guidebook revised in fiscal 2016. Moreover, we are seeking to cultivate thorough, appropriate and habitual understanding and behavior in regard to human rights among our employees by incorporating specific contents on topics such as consideration for personnel diversity and harassment prevention in various trainings related to corporate ethics utilizing this guidebook.

We have also created a system for consultations on topics such as employee business ethics and harassment, establishing consultation desks and making them open to all employees.

>>> Human resources management system

We are promoting the invigoration of people and organizations as the foundation for the realization of our Reborn Nippon Shokubai 2020 long-term business plan and the sustainable growth of our Group. With "Think & Act," meaning "always being conscious of one's accountability in order to maximize value for the customer," as the theme, we have incorporated and are implementing a human resources management system based on Management By Objectives (MBO). We continuously review the system itself and its operation, and we are improving an environment in which employees achieve results autonomously.

1. Provisions for managerial employees

In April 2016, we revised the human resources system for managerial employees that had been in place for 16 years. Managerial employees are the drivers behind what needs to be accomplished under our medium- and long-term business plans and our "Vision for 2025." Because these managerial employees are motivated by the concept of "Think & Act," meaning "always being conscious of one's accountability in order to maximize value for the customer," this system is designed to reward those who demonstrate their best efforts at fulfilling their roles.

2. Provisions for non-managerial employees

We remain committed to a variety of efforts to continually maintain the current system. We conduct evaluator training, for example, with the objectives of setting more challenging and ambitious goals and maintaining the impartiality of employee evaluations, as well as maintaining and increasing relationships of trust between superiors and those working under them in the workplace through evaluations and feedback.

>>> Human capital development

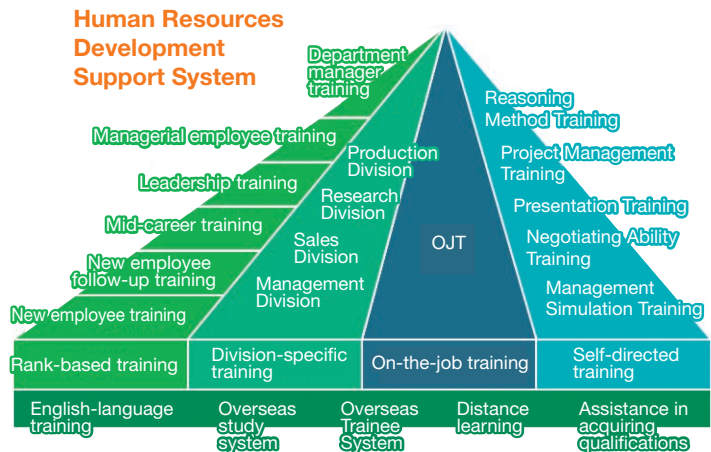
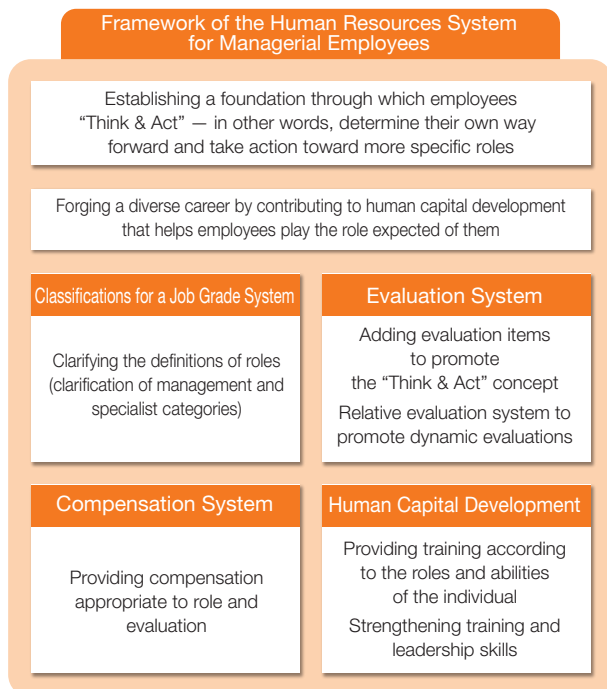
We have listed the following four items as "personnel objectives" in order to cultivate leaders who take the initiative and assume responsibility for a task without leaving it to others to perform.

- Self-starting 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

We are implementing a variety of measures with the purpose of cultivating leaders who can drive the organization and be active globally. For managerial employees, we have created and implemented various trainings so all individuals can fulfill their roles in the human resources system revised in fiscal 2016.

For non-managerial employees, in addition to "rank-based training" that employees participate in at each step of their careers, we provide opportunities that include self-directed training, distance learning, global training, and an overseas study and trainee system, and support these studies.

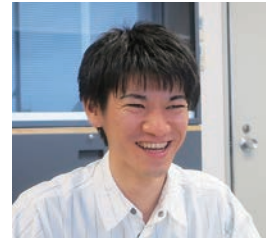
Framework of the Human Resources System for Managerial Employees



Interview

After I underwent self-directed training

I thought I wanted to assert myself directly during presentations and discussions, and email communication with foreign customers had increased in my work. For these and other reasons, I took two of these training courses. Both of these courses started with lectures using familiar expressions and methods, so they were easy to understand. Since they were practical trainings focused on exercises, I felt that I could apply them to my work. After the courses, my sense of not being proficient with English email was greatly reduced. I have also become able to think about the order and structure when I wanted to convey something to another person and be aware of identifying the things that appeal to them when speaking. In the future, I want to keep using self-directed trainings that allow me to enhance knowledge and abilities that I feel I am lacking.



Yasuhiro Ono
Research Department
Ethylene Oxide Business Division

>>> Promoting diversity

1. Promoting female employees

Our company has been working actively to ensure gender-neutral recruitment and institutional development.

We have formulated an action plan for fiscal 2016–2020 that is intended to increase the number of female employees in managerial positions (or above the level of section manager class). Our goal is to double the number relative to the fiscal 2015 year-end levels by the end of fiscal 2020.

As one measure for this plan in fiscal 2017, we gathered female managerial employees and others and conducted a workshop with them as well as management training for their superiors.

2. Employment of foreign nationals

In anticipation of further expansion of our business across the globe, we continue to hire foreign nationals in Japan as well as in our

Group companies in other countries.

3. 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. The period of re-employment extends 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.

Note: Re-employment rate of retired employees: 83.9% (fiscal 2017)

4. Employment of people with disabilities

We are committed to our employment of people with disabilities and giving them active roles at each of our workplaces and at our designated Group subsidiary, NS Green Co., Ltd.

>>> Promoting work-life balance

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. This initiative includes wealth building, emergency preparedness, support for daily life activities, planning for a stable retirement, fruitful use of personal time, and maintenance of health and wellness. Our company will continue to support “the good life” for our employees through self-help as we enter the era of a low birth rate and an aging population.

Creating a space for communication

We promote a good work-life balance by creating an environment in which everyone can work in comfort. As part of this effort, we conduct a variety of events that provide opportunities for employees and their families to interact.



Ski tour held as an employee welfare event



Inter-departmental Sports Competition

Our Relationship with Our Employees

Providing balanced assistance for work, 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.

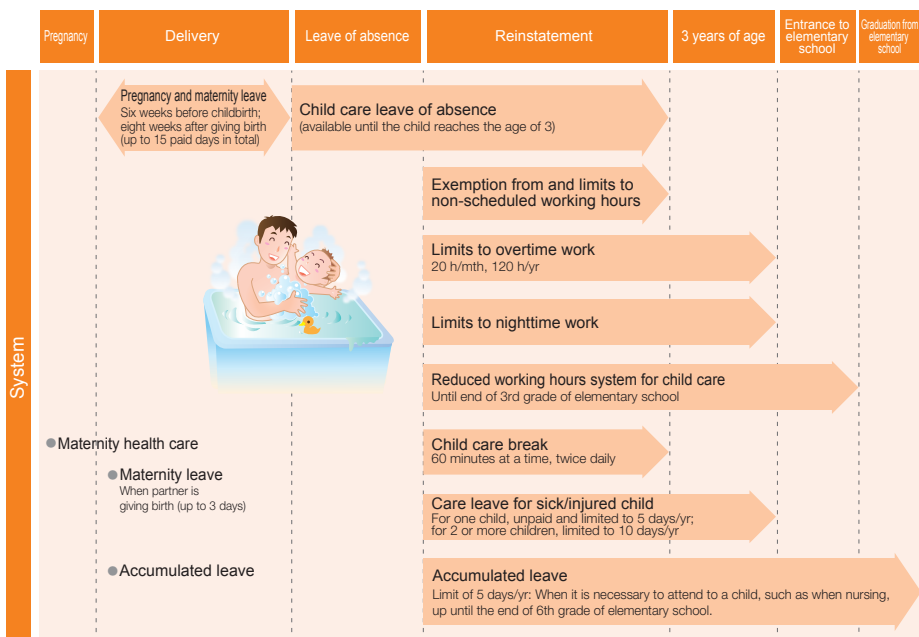
The Osaka Labour Bureau of the Ministry of Health, Labour and Welfare granted us an authorization for complying with Standards for General Employers under the Next Generation Nurturing Support Measures Promotion Law.



Providing Balanced Assistance for Work and Nursing Care

Leave of absence	Balanced assistance for work and nursing care
Nursing care leave Any period of up to 365 consecutive days in total	Exemption from and limits to non-scheduled working hours
	Limits to overtime work 20 h/mth, 120 h/yr
	Limits to nighttime work
	Reduced working hours for nursing care Scheduled working hours reduced to 6 h/day
	Nursing care leave Up to 5 days/yr for one person, up to 10 days/yr for 2 persons or more
	Accumulated leave When taking a leave of absence of more than 5 consecutive calendar days. However, may also be used for up to 5 days per year on a day-to-day basis.

Providing Balanced Assistance for Work and Child Care



Notes: Number of employees using child care leave of absence: 24 (Total number of employees for fiscal 2017)
Number of employees using reduced working hours system for child care: 242 (Total number of employees for fiscal 2017)

Managing mental and physical health

In order to maintain and improve the mental and physical health of employees, we are promoting various measures concerning health management and promotion. Conducted by our industrial physicians and occupational health staff, this effort revolves around the health promotion office in each of our business offices. Specifically, we conduct general and specialized health examinations and provide tailored health advice in cooperation with the Nippon Shokubai Health Insurance Union. Together, we arrange health checkups with dentists in addition to family checkups and the like. We also offer educational activities such as



In-house lecture



Physical fitness session

in-house lectures and physical strength measurement sessions.

Regarding mental health, we have formulated a Mental Health Plan aimed at preventing mental and physical illnesses beforehand. At the same time, we strive to achieve productivity improvements and create a bright and lively workplace by providing stress checks and rank-based training and the like focused on mental health education for all employees.

Toward a sound labor-management relationship

Nippon Shokubai and the Nippon Shokubai Labor Union, a member of the Japanese Federation of Energy and Chemistry Workers Unions, maintain a dialogue based on mutual respect. Through our good labor-management relationship based on mutual understanding and trust, we are addressing the resolution of various issues and achievement of goals through cooperation. Under the union shop agreement, all our employees — except for managerial employees — are required to join the union.

Responsible Care Initiatives

All companies in the chemical industry responsible for handling various chemical substances voluntarily agree to protect the environment and human health and safety in all processes ranging from the development of chemical substances to their manufacture, distribution, use, end consumption, disposal, and recycling. The results of these activities are publicly disclosed and the companies engage in dialogue and communication initiatives with the public. This effort is part of the initiative known as Responsible Care (RC). The RC Global Charter was developed in 2006 and revised in 2014 by the International Council of Chemical Associations (ICCA), which promotes Responsible Care worldwide.

Nippon Shokubai has participated in the Japan Responsible Care Council (JRCC; currently known as the Japan Chemical Industry Association Responsible Care Committee) since it was established in 1995. We actively promote Responsible Care by focusing on our main pillars: environmental protection; process safety and disaster prevention; occupational safety and health; chemical safety; quality; and communication with society.

We are determined to continue contributing to society while fulfilling our corporate social responsibility through our group-wide commitment to Responsible Care.



President's signature on the RC Global Charter (Revised 2014 version)

RC Policy

In conformity with the Nippon Shokubai Group Mission, Management Commitment, Corporate Credo, and the Nippon Shokubai Code of Conduct, 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.

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.

- 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 Corporate Credo, "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.**

RC Promotion Organization

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



10th Medium-term Responsible Care Basic Plan (Fiscal 2017–2020) and Results

The 10th Medium-term Responsible Care Basic Plan was formulated in order to gain greater public trust by creating the concept of the “Reborn Nippon Shokubai.” It reflects a continuation of initiatives adopted for the 9th such plan as well as actual outcomes of problems encountered; moreover, various aspects of our Responsible Care initiatives have been modified in response to requests from both inside and outside the company. We will continue to focus on the importance of fostering a safety culture.

In addition, in order to further promote our Responsible Care initiatives, we will continue to adopt improvements by setting numerical targets (as key performance indicators, or KPI) wherever possible and will evaluate them on a regular basis.

Evaluation: 😊 Achieved 😐 Almost achieved 😞 Not achieved

Environmental Protection 😐

Objectives for Fiscal 2017–2020

- To reduce energy consumption by an amount equivalent to 8,000 kL of crude oil (over 4 years)
- To reduce energy intensity by 5% from fiscal 2015 levels (1% reduction annually to 103.2 L/t)
- To reduce CO₂ intensity by 5% from fiscal 2015 levels (energy source, 1% reduction annually to 0.208 t-CO₂/t)
- To reduce fuel consumption intensity for road transport by 5% from fiscal 2015 levels (1% reduction annually to 33.4 L/1,000 t-km)
- To promote modal shift
- To maintain zero emissions¹
- (Quantity of final off-site landfill) ≤ (Total amount of waste generated × 0.1%)
- To reduce emissions of substances subject to the PRTR Law by 25% from fiscal 2015 levels (81 t/y)

Results for Fiscal 2017

- Energy consumption reduced by 2,168 kL of crude oil equivalent
- Energy intensity: 9.3% reduction
- CO₂ intensity: 11.1% reduction
- Fuel consumption intensity for road transport: 0.7% increase
- Modal shift promotion continues
- Zero emissions maintained
- Emissions of substances subject to the PRTR Law: 9.8% reduction

Priority Initiatives

- Promoted energy conservation initiatives and advanced technical reviews to reduce waste and the release of PRTR-controlled chemical substances.
- Continued examining the utilization of renewable energy.
- Evaluated contributions to CO₂ emissions reduction related to printed media through c-LCA.²
- Conducted inspections of equipment that uses fluorocarbons as planned.

Process Safety and Disaster Prevention 😐

Objectives for Fiscal 2017–2020

- To achieve zero accidents of Class A³ and Class B⁴ (zero severe process safety accidents)

Results for Fiscal 2017

- Class A process safety accidents: 0 • Class B process safety accidents: 1

Priority Initiatives

- Implemented systematic risk assessments and other initiatives to prevent accidents and malfunctions.
- Systematically implemented measures against deterioration and for earthquake response, for example.
- Continuously improved our process safety management system.
- Systematically implemented and sought to enhance external education and workplace education and training.
- Sought to strengthen a safety first mindset through efforts that included Safe Operation Month activities and safe behavior checks.

Occupational Safety and Health 😞

Objectives for Fiscal 2017–2020

- Zero injuries with loss of workdays⁵ • Zero injuries without loss of workdays⁶ (including contractors)

Results for Fiscal 2017

- Four injuries with loss of workdays occurred.
- Nine injuries without loss of workdays occurred.

Priority Initiatives

- Advanced basic safety activities and undertook other efforts to prevent injuries.
- Implemented systematic safety measures by, for example, steadily undertaking the organization-wide introduction of industrial injury examples.
- Checked the status of every safety activity and sought to continuously improve them.
- Systematically implemented workplace safety education and sought to enhance workplace education and training.
- Sought to strengthen a safety first mindset through efforts that included safe behavior checks.
- Supported the safety initiatives of our contractors through safety education and patrols, for example.

Definitions

¹ Zero emissions: Reducing the quantity of waste subject to final disposal at off-site landfills to less than 0.1% of the total amount of waste generated (In the calculation of total waste, the amount of sludge subject to activated sludge treatment is calculated before dehydration.)

² c-LCA (carbon-Life-Cycle Analysis): A method of assessing greenhouse gas emissions throughout the life cycle of a finished product incorporating chemical products and a comparison product containing no such chemical products when used by consumers and in other industries. The evaluation method calculates a chemical product's net contribution to GHG emissions reduction by determining the increased emissions when no such chemical product is used.

³ Level 9 or higher according to the Nippon Shokubai method on the Japan Petrochemical Industry Association chart

⁴ Level 3 to 8 according to the Nippon Shokubai method on the Japan Petrochemical Industry Association chart

⁵ Injury with loss of workdays: Injury requiring at least one lost workday for medical treatment

⁶ Injury without loss of workdays: Injury requiring no loss of workdays for medical treatment

⁷ Refers to Group companies inside and outside Japan, unless otherwise specified.

Chemical Safety 😊

Objectives for Fiscal 2017–2020

- To achieve zero problems related to chemical safety (legal or social problems)

Results for Fiscal 2017

- Zero problems related to chemical safety occurred.

Priority Initiatives

- Gathered information about the hazardous properties and the legal requirements for chemical substances. In addition to making this information known within the company, also appropriately provided information to customers, including through SDS.
- Implemented functional improvements to our chemical substance management system and ensured information granularity based on our plans.
- Properly provided various reports and submitted information within specified time periods in accordance with the legal obligations of Japanese and foreign laws and regulations as well as other requests from authorities.

Quality 😐

Objectives for Fiscal 2017–2020

- To improve customer satisfaction • To attain more trust from customers
- To achieve zero serious quality complaints

Results for Fiscal 2017

- Customer satisfaction improvement almost achieved.
- Attaining more trust from customers achieved.
- One serious customer complaint was filed.

Priority Initiatives

- Promoted efforts to prevent quality issues.
- Implemented product safety assessment, product entrustment assessment and screening by the gate system for fine and specialty chemicals and new businesses.
- Strengthened support for the quality assurance initiatives of Group companies.⁷
- Implemented quality audits at both our plants and Group companies.
- Continuously implemented quality education and quality awareness-raising activities.

Communication with Society 😊

Objectives for Fiscal 2017–2020

- To maintain dialogue with stakeholders and implement information disclosure

Results for Fiscal 2017

- Participated in community dialogues. • Published CSR Report.

Developing RC among Our Group Companies (Measures Common to Our Group Companies) 😐

Objectives for Fiscal 2017–2020

- Environmental Protection
 - To reduce energy intensity
 - To reduce disposal at off-site landfills (Group companies in Japan)
 - To reduce the amount of waste (Group companies outside Japan)
 - To reduce emissions of substances subject to the PRTR Law
- Process Safety and Disaster Prevention: To achieve zero disasters and zero accidents (equivalent to Class A and Class B severe process safety accidents on the Nippon Shokubai scale)
- Occupational Safety and Health: To achieve zero injuries with loss of workdays
- Chemical Safety: To achieve zero problems related to chemical safety (legal or social problems)
- Quality: To receive zero serious quality complaints
- Communication with Society: To maintain a dialogue with stakeholders and implement reasonable information disclosure

Results for Fiscal 2017

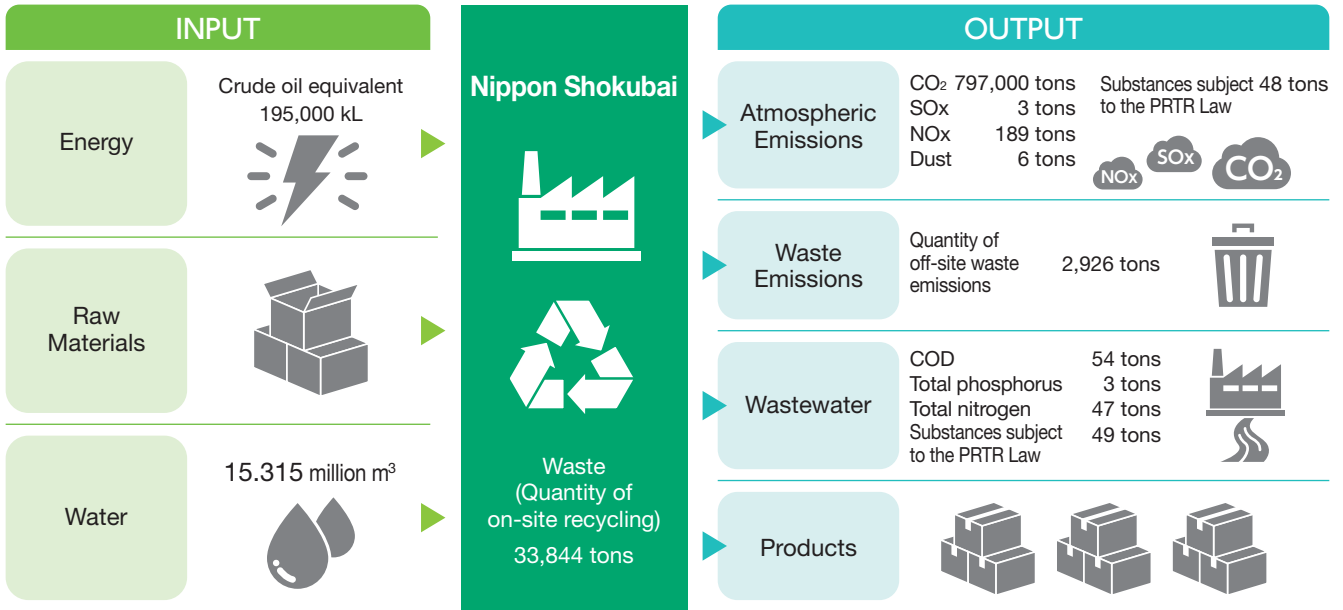
- Eight of 12 Group companies reduced their energy intensity year-on-year.
- Waste subject to final disposal at off-site landfills was reduced by 29% compared with the level of the previous fiscal year.
- Amount of waste generated was reduced by 5% compared with the level of the previous fiscal year.
- Emissions of substances subject to the PRTR Law increased by 4% compared with the level of the previous fiscal year.
- Zero facility disasters occurred. • One facility accident occurred.
- Two injuries with loss of workdays occurred.
- Zero problems related to chemical safety occurred. • Zero serious customer complaints were filed.
- Published an Environmental Report and participated in community events.

Priority Initiatives

- Conducted Responsible Care (RC) interviews and audits, and sought to improve the RC level of the entire Group.

Environmental Impacts of Our Business Operations

We are engaged in various efforts to not only provide better products and services, but also to reduce the environmental impacts of our business operations, including in our supply chains. We make efforts to conserve energy and prevent global warming, of course. We are also managing the water used in our manufacturing sites in order to use water resources effectively, conducting advanced recycling and thoroughly treating water before it is released into the natural environment. Moreover, we also commission odor monitoring as well as conduct odor patrols and regular noise measurements so that neighboring residents can live in peace.



Note: This fiscal 2017 data is for only Nippon Shokubai (including our head offices, research centers and other sites).

Initiatives for Preventing Global Warming

Promoting energy efficiency

Reductions in energy intensity and CO₂ emissions intensity

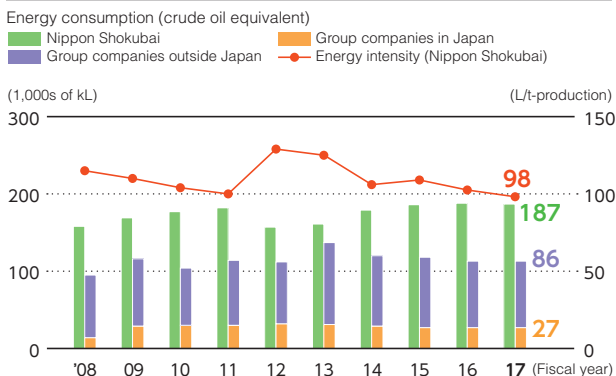
As countermeasures against global warming enter a new phase, the government of Japan has also established a Plan for Global Warming Countermeasures. This plan positions the Action Plan for a Low-Carbon Society established by the Japan Business Federation (Keidanren) as the foundation for business community measures.

We are taking into account the targets set by the Japan Chemical Industry Association for this plan as we seek to further improve our energy efficiency and continue to advance energy conservation

efforts, including waste heat recovery and the introduction of cogeneration systems at each of our plants.

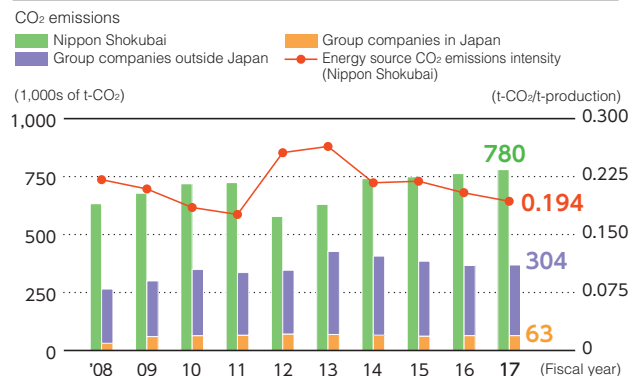
Our fiscal 2017 results show steady movement toward our fiscal 2020 targets. Through the promotion of energy conservation efforts and the improvement of production efficiency, energy intensity became 98 L/t, CO₂ emissions intensity became 0.411 t/t, and energy source CO₂ emissions intensity became 0.194 t/t, which were great improvements from the previous fiscal year.

Trends in Energy Consumption and Intensity



* The amount of energy consumed and CO₂ emissions do not include our head offices, research centers, plant administration buildings or employee welfare facilities.
 * The amount of energy consumed and CO₂ emissions in fiscal 2017 totaled 7,884 kiloliters and 16,558 tons, respectively, for the head offices, research centers, plant administration buildings, and employee welfare facilities of Nippon Shokubai.

Trends in CO₂ Emissions and Intensity



* CO₂ emissions are totals of energy source and non-energy source CO₂ emissions.

>>> Promoting CO₂ emissions reductions throughout the product life cycle

c-LCA assessment

The c-LCA assesses CO₂ emissions throughout the life cycle of a finished product incorporating chemical products and a comparison product containing no such chemical products. The emissions avoided are calculated as the net amount of emissions avoided as a result of the use of these chemical products.

Nippon Shokubai's products that are expected to contribute to the avoidance of CO₂ emissions

Aqua Guard	Calculation of CO ₂ emissions avoided in one year when all apartments are built as long-lasting structures 3.4 million tons	Aqua Guard was developed to reduce the cracking and spalling of concrete. The combination of Aqua Guard with a high-range water reducer for concrete is expected to contribute to much longer-lasting concrete structures.	Assumption for assessment Service period: The life cycle assessment assumes that a long-life apartment has a 100-year service life and a conventional apartment has a 50-year service life. CO ₂ emissions associated with the production, use, and disposal of an apartment are evaluated with reference to the "Guidelines for LCA for Buildings" published by the Architectural Institute of Japan.
ACRYSET	Calculation of CO ₂ emissions avoided when an application-type vibration-damping material is installed in all automobiles manufactured in one year 310,000 tons	We developed an emulsion for application-type vibration-damping materials intended for mounting on the lower part of a vehicle body in order to reduce noise and vibration from the engine and road surface. By using such material, it is possible to keep the vehicle light and energy-efficient.	Assumption for assessment The annual travelling distance is assumed to 10,000 km with a 10-year service life. Automobiles using asphalt sheeting as a vibration-damping material are compared and evaluated.
ZIRCOSTAR	Calculation of CO ₂ emissions avoided when ZIRCOSTAR is incorporated in all smartphones manufactured in one year 220,000 tons	Using this product for plastic lenses, displays, and other optical materials increases the energy efficiency of displays on mobile phones, smartphones, and other handheld devices, contributing to longer battery life.	Assumption for assessment According to the usage time described in the Carbon Footprint Product Category Rules, the product was evaluated as being in use for two years. A smartphone incorporating ZIRCOSTAR in the optical material was evaluated as achieving a 3.6% reduction in power consumption as an energy-efficiency benefit.
VEEA	Calculation of CO ₂ emissions avoided by reduction expected from all UV curable inks produced in one year 330,000 tons	By using UV-curable reactive diluents for inks that are better for the environment, volatile solvents are not emitted, making related equipment unnecessary, which contributes to saving energy and increasing productivity.	Assumption for assessment Printed materials are assumed to be four-color on full A-sized sheets with an ink amount of 3.2 g/m ² . Commercial offset and commercial UV printing presses were compared for evaluations.

Note: The above assumed values are for comparative purposes only; the actual service life and performance are not guaranteed.

>>> Suppression of fluorocarbon emissions

Aggregated calculated leakage of fluorocarbons

The Act on Rational Use and Proper Management of Fluorocarbons was fully implemented in April 2015 and covers the entire lifecycle of fluorocarbons from production to disposal.

As a "user of specified products," we carry out scheduled simple inspections and periodic inspections as required by law. In addition, the amount of fluorocarbon leakage calculated in fiscal 2017 totaled 6,162 t-CO₂ for the entire company, with 1,025 t-CO₂ from the Himeji Plant and 5,109 t-CO₂ from the Kawasaki Plant, which had increased leakage during equipment stoppage. We will continue to strengthen inspections

and maintenance as we strive to reduce the amount of fluorocarbon leakage, which will help alleviate global warming.

Calculated Leakage of Fluorocarbons in Fiscal 2017

	(t-CO ₂)
Himeji Plant	1,025
Kawasaki Plant	5,109
Others	27
Entire company	6,162

>>> Calculating the CO₂ emissions resulting from our entire supply chain

Calculation of Scope 3 emissions

We report our greenhouse gas (GHG) emissions according to the three categories set forth in the GHG protocol: Scope 1, 2 and 3.

- Scope1** Direct emissions: GHG emissions resulting from the burning of fuel or other products as part of business operations
- Scope2** Indirect emissions: GHG emissions resulting from purchased energy, such as purchased electric power
- Scope3** Other indirect emissions: GHG emissions resulting from operations across the entire value chain (from resource extraction to product disposal)

We will continue to calculate Scope 3 emissions in the future as we investigate the possibility of reducing CO₂ emissions resulting from all corporate activities.

Trend in Scope 3 Emissions

No.	Category	Emissions (1,000 t-CO ₂ e)		
		FY2015	FY2016	FY2017
1	Purchased goods and services	1,508	1,569	1,619
2	Capital goods	22	53	40
3	Fuels and energy-related activities (not included in Scope 1 or Scope 2)	58	58	62
4	Upstream transportation and distribution	13	14	15
5	Waste generated in operations	8	9	7
6	Business travel	0.3	0.3	0.3
7	Employee commuting	0.8	0.8	0.8
Total		1,610	1,704	1,744

Interview

We changed the operating conditions of our waste liquid incineration equipment and achieved annual energy conservation of 582 kL (crude oil equivalent).

Accompanying plans to increase production of SOFTANOL, we expect an increased amount of waste liquid that would exceed the capacity of our waste liquid incineration equipment under the existing processing conditions, making it necessary to investigate new conditions. As a result of our investigations, we learned that increasing the concentration during the pretreatment process would be effective. Depending on the operating conditions, however, this would have a negative impact on the activated sludge treatment at a later stage and increase the frequency of incinerator maintenance. For this reason, we conducted numerous tests. As a result, we were able to find conditions that could handle the increased production plan.

Moreover, increasing the concentration contributed to reducing the amount of city gas used as fuel. After testing, we began operation with the new conditions and achieved annual energy conservation of 582 kL (crude oil equivalent).



Takahiro Matsumoto
Production No. 3 Section
Kawasaki Plant

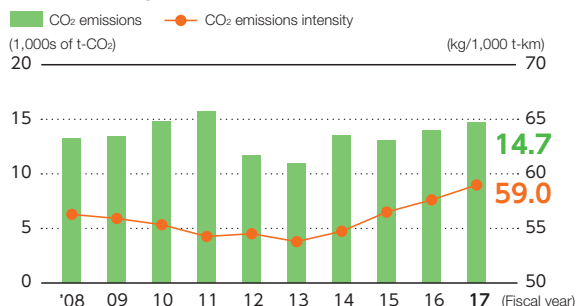
Initiatives for Eco-friendly Distribution

>>> Promoting modal shift

As a means of fighting global warming through our logistics operations, we are taking steps to reduce our CO₂ emissions intensity and implement exhaust gas countermeasures to control air pollution.

Although changing economic conditions can affect the amount of goods we ship and our CO₂ emissions, we are advancing initiatives to reduce CO₂ emissions intensity. These include modal shift, improved transport efficiency, introduction of digital tachometers (including GPS and drive recorders), and energy-efficient vehicle operation such as minimized idling and the installation of energy-efficient tires.

Trends in CO₂ Emissions and Intensity Attributable to Domestic Logistics



As an air pollution control measure, we adopted the Kawasaki Eco-Transport System* (effective April 1, 2010) and began promoting three initiatives: eco-friendly driving and display of "eco-drive" stickers; elimination of vehicles that do not comply with laws regulating NO_x and PM emissions; and widespread adoption of low-emission and energy-efficient vehicles.

Starting this fiscal year, for environmental impact reduction and stable transportation, we have also been advancing joint transportation with other companies in the same business and a new type of ship transportation (roll-on/roll-off shipping).

* An environmentally friendly transportation system established with the partial amendment of the "Kawasaki City Ordinance for Conservation of Life Environment, including Pollution Prevention."



Railway tank containers and loading and filling equipment for one of our main products (ethylene oxide), which has increased in volume

RC Training

We provide ongoing employee training in Responsible Care (RC) for the purpose of improving their knowledge, skill, and understanding of overall RC initiatives.

In keeping with our training curriculum for fiscal 2017, we provided this training to new employees entering our company; to those being promoted to the position of subsection chief; and to those being promoted to manager.

We intend to continue improving our RC training capabilities in the future.



RC training for recently hired employees

RC Community Dialogue Meeting

We participate in the community dialogue meetings held by the Responsible Care Committee of the Japan Chemical Industry Association and introduce our Company's RC initiatives. Participants include members of residents' associations, administrators, NPOs, trade groups, and companies located in the same districts as our plants. This communication initiative is helping to promote mutual understanding.

In fiscal 2017, the Kawasaki district meeting was held with the participation of the Kawasaki Plant.



RC community dialogue meeting

Definitions

Modal Shift

By changing our shipping method toward bulk transport using railways and ships, we are optimizing our transport method to conserve energy and reduce our environmental impact.

Ton-kilometer

Transport ton-kilometer is a unit of transportation measurement referring to freight transport volume. As an index for precisely expressing transport as an economic activity, it is the multiple of freight haul distance (in kilometers) and the transported freight weight (tons).

Environmental Protection Initiatives

Pollution Control Initiatives Targeting Air and Water

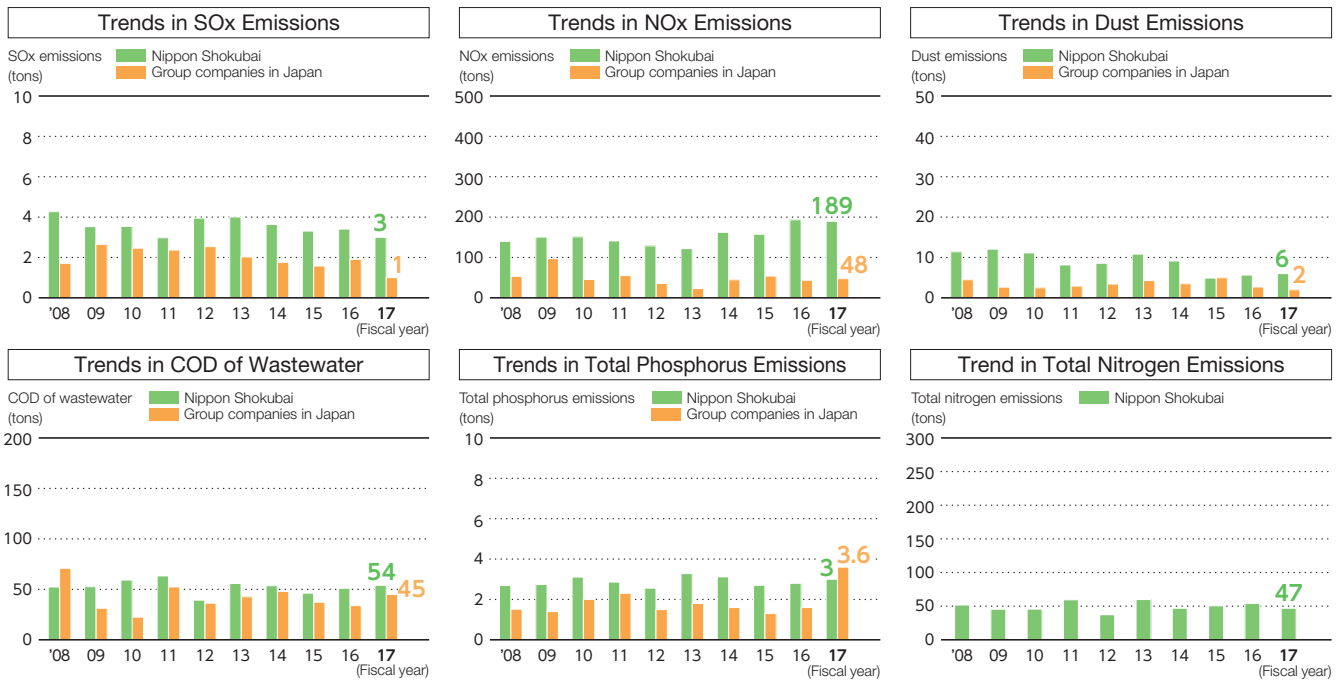
Working to reduce the environmental impact by introducing waste liquid incineration equipment and high-performance activated sludge treatment equipment

We are determining our SOx, NOx and dust emissions, and we have installed denitrification equipment, which we developed in-house, for NOx and scrubbers for dust to prevent air pollution. Moreover, we are reducing consumption of fuel oil and advancing fuel conversion to natural gas.

To prevent water pollution, we are working to reduce environmental impacts from wastewater. In addition to collecting and reusing wastewater

discharged from production processes, we have installed activated sludge treatment equipment and waste liquid incineration equipment. Furthermore, we have adopted high-performance activated sludge treatment equipment that can stably process even high impact substances and seek to reduce waste sludge as well.

All emissions are at levels below municipal and prefectural agreements.

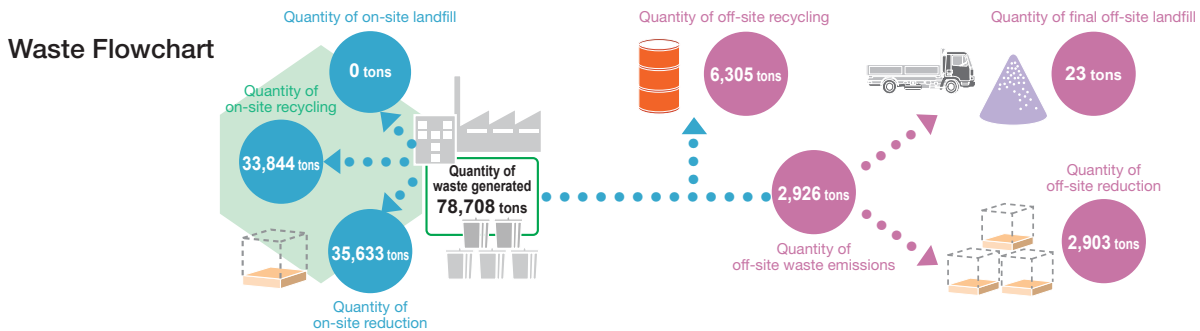


Waste Reduction Initiatives

Reducing the amount of waste subject to final disposal at off-site landfills

Addressing 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 2017, we are continuing to implement our zero emissions policy by reducing the amount of waste subject to final disposal at off-site landfills. In addition to implementing thorough sorting for recovery and recycling, we are doing this by reforming production processes to minimize byproducts, reusing byproducts and processing product leftovers on site.



Definitions

SOx
A hazardous air pollutant. This is a general term for sulfur oxides such as sulfur dioxide (SO₂) and sulfur trioxide (SO₃), which are generated mainly from the burning of fossil fuels.

NOx
A general term for nitrogen oxides such as nitric oxide (NO) and nitrogen dioxide (NO₂). These substances contribute to acid rain and photochemical smog.

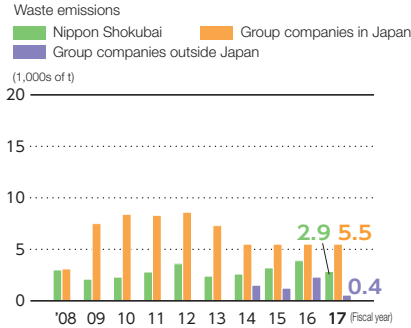
COD (Chemical Oxygen Demand)
An index of water pollution caused by an organic substance. It represents the volume of oxygen consumed when an organic substance is oxidized.

Dust
Fine particles generated through incineration of materials and other processes

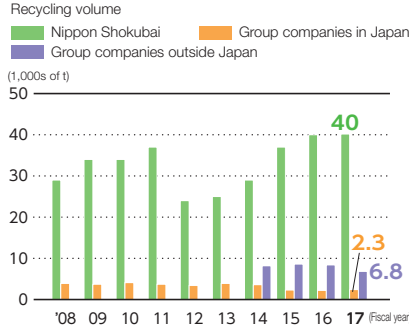
Total phosphorus
This is a total of the inorganic and organic phosphorus contained in wastewater. This is a eutrophication index.

Total nitrogen
This is a total of the inorganic and organic nitrogen contained in wastewater. This is a eutrophication index.

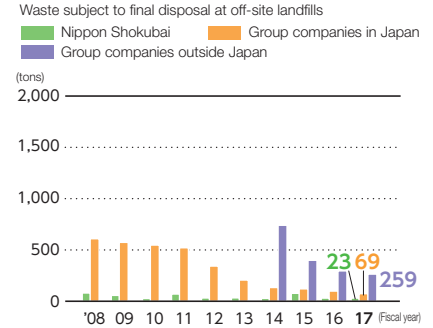
Trends in Waste Emissions



Trends in Recycling Volume



Trends in Amount of Waste Subject to Final Disposal at Off-site Landfills



Note: Increased as a result of the inclusion, in the scope of this report, of one additional Group company in Japan in fiscal 2009.

Interview

Waste when changing products will be one third that of before.

In order to achieve the cost reduction goals of the SAP (superabsorbent polymer) survival project, we are reviewing production processes and undertaking reform efforts. The issue that our department grappled with this time was examining reduction of waste when changing products.

In addition to reducing the amount of time taken when changing products, we investigated uniform conditions that could be used for multiple product types. After continuous trial and error, we were able to gather data and finally achieve success with the cooperation of related departments. As a result, waste when changing products will be one third that of before. Moreover, unifying the procedures when changing products also serves to improve work safety, reduce labor burdens, and avoid human error.

We will continue to work hard to realize further innovations and achieve both environmental preservation and improved profitability.



Tomohito Sasouzaki
Superabsorbents Technology Dept.
Himeji Plant

Chemical Substances Control Initiative

Reducing chemical emissions

In fiscal 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 2017, we released 97 tons of substances subject to the PRTR Law, which represents a 9.8% decrease in emissions compared to fiscal 2015 levels.

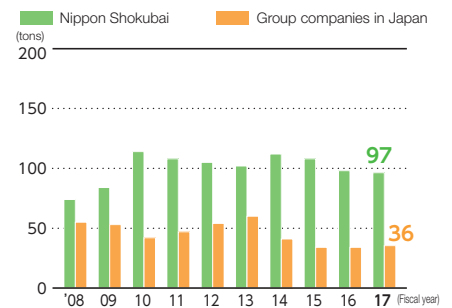
We remain focused on further reducing emissions toward our fiscal 2020 target of a 25% reduction from fiscal 2015 levels.

Top 10 Substances Subject to the PRTR Law Released in Fiscal 2017

No.	Government Designation No.	Substance Subject to the PRTR Law	Released into Atmosphere	Released into Water	Total Emissions	Amount Transferred
1	405	Boron compounds	0.0	34.2	34.2	0.2
2	4	Acrylic acid and its water-soluble salts	14.7	0.0	14.7	0.0
3	321	Vanadium compounds	0.0	10.5	10.5	0.2
4	80	Xylene	6.3	0.0	6.3	21.5
5	300	Toluene	4.9	0.0	4.9	108.7
6	58	Ethylene glycol monomethyl ether	3.9	0.0	3.9	0.0
7	56	Ethylene oxide	3.8	0.0	3.8	0.0
8	12	Acetaldehyde	2.4	0.0	2.4	0.0
9	154	Cyclohexylamine	1.4	0.2	1.7	0.0
10	400	Benzene	1.6	0.0	1.6	0.5

Note: In fiscal 2010, acrylic acid and its water-soluble salts, vanadium compounds, and other substances were included in the PRTR.

Trends in Emissions of Substances Subject to the PRTR Law



Definition

PRTR (Pollutant Release and Transfer Register)

A regulatory system that requires the reporting of emissions of designated chemical substances into the air, water and soil as well as the volume of waste transferred. Data compiled and submitted to governmental agencies are disclosed to the public.

Environmental Protection Initiatives

Interview

Reducing boron emissions by 15 tons annually through the introduction of new technologies

We handle and emit a large volume of boron, which is a substance subject to the PRTR Law, at the Kawasaki Plant, so we are working to reduce emissions.

We incorporated new equipment that recovers boron that had been emitted together with wastewater. We plan to be able to reduce emissions by 15 tons per year. Unexpected troubles and difficulties occur when taking on new challenges, and issues still remain for stable operation, but we were able to identify prospects while receiving advice from many people. We will continue taking on new challenges and work to reduce boron emissions.



Akimasa Watanabe
Technology Department
Kawasaki Plant

Environmental Accounting

The values determined in our environmental accounting were aggregated according to 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 *Environmental Accounting Guidelines 2005* published by the Ministry of the Environment of Japan.

Environmental protection costs & environmental protection benefits

Applicable period: April 1, 2017–March 31, 2018
Calculation extent: Nippon Shokubai only (millions of yen)

Classification		Main Initiatives	Amount Invested	Expenses	Effects	Relevant Page
Environmental protection cost related to control of the environmental impacts of our production and service business operations (Business area cost)	Break-down	1. Pollution Control Cost	213	2,210	No pollution problems occurred.	31, 32
		2. Global Environmental Protection Cost	593	2,395	We conducted energy efficiency efforts equivalent to 2,168 kL (crude oil) annually.	28, 29
		3. Resource Recycling Cost	14	543	We maintained zero emissions by sorting and recycling our solid waste.	31, 32
Cost of controlling the environmental impacts of production and service operations occurring upstream & downstream (Upstream/downstream cost)		Reuse of drum containers	0	52	Some of drum containers are reused.	—
Environmental protection cost related to management activities (Environmental management cost)		Operation of environmental management structure; acquisition and maintenance of ISO 14001 registration	0	689	All our plants successfully acquired certifications, and we are seeking to enhance our environmental management systems.	—
Environmental protection cost related to R&D activities (R&D cost)		Reduction of the environmental impact through development and manufacturing of green products	0	1,972	Conducting R&D of catalysts for treating wastewater containing organic substance(s) and catalysts for dioxin decomposition	—
Environmental protection cost related to social activities (Social activity cost)		Environmental-related contributions	0	28	Contributing to forest development initiatives	21
Cost of dealing with environmental remediation (Environmental damage cost)		—	0	4	—	—
Total			821	7,894		

Economic effects (monetary benefits) resulting from environmental protection initiatives

(millions of yen)

Effect		Amount
Income	Operating revenue from recycling used products and waste generated by principal business activities	26
Cost saving	Reduction in expenses associated with energy conservation	3,360
	Reduction in waste disposal cost accruing from resource conservation and recycling	1,961
Total		5,346

Reference Total investment for the period: 8,666 million yen
Total R&D expenses for the period: 12,479 million yen

Definition

Environmental Accounting

This system collects and analyzes the costs and effectiveness of environmental protection in business activities, quantitatively and to the maximum extent, and makes 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.

Basic Approach to Safety Issues

At Nippon Shokubai, we recognize that sustainable development as a company is impossible without the assurance of safety and the confidence of society. We have placed "Safety takes priority over production," which we adopted as our Corporate Credo in 1973 as a top guideline along with our Group Mission and Management Commitment.

Moreover, we distribute to all our employees a Safety Handbook with our Corporate Credo and Safety Oath, as well as our safety management principles, which are described below, and the roles of the company and each organizational level in ensuring safety. We are making the contents of this handbook known throughout the company.

》》》 Safety management principles

We are putting into practice the fundamental principles for safety management, behavior principles during production activities and other guidelines that are established in the Safety Management Regulations of our company.

<Fundamental principle of safety management (excerpt)>

(1) Assure safety based on our Corporate Credo, "Safety takes priority over production."

<Behavior principle during production activities>

(1) Stop operation immediately if you discover something abnormal in the functioning of equipment. No one will ask who was responsible.

》》》 Message from management regarding safety issues

As we observed Safety Oath Day in fiscal 2017, our president directed us with instructions to once again embrace a strong determination to never let a tragic accident happen again in accordance with our oaths to follow our Corporate Credo, "Safety takes priority over production." Furthermore, he instructed us to hold safety discussions in every company workplace during our Safe Operation Month (September 16 to October 15), and to have everyone reconfirm their individual roles and responsibilities and discuss topics such as what people should



Safety inspection at the Himeji Plant



Corporate Credo, Safety Oath

pay attention to in order to ensure safety.

In addition, the president conducted safety inspections while visiting our Himeji Plant in October and our Kawasaki Plant in November. At both plants he spoke directly with employees, and while providing critiques, called strongly for people to thoroughly implement our Corporate Credo, "Safety takes priority over production," and undertake safety activities with every individual having a sense of being a responsible party.



Safety inspection at the Kawasaki Plant

Promotion of Voluntary Safety Initiatives

》》》 Efforts to prevent accidents and malfunctions

HAZOP is a method to identify latent risks at a plant. We are seeking to prevent trouble by systematically implementing HAZOP and steadily conducting management of change and management of non-routine work.

Moreover, we are advancing the identification of problems and

reform activities by undertaking HMI activities at the Himeji Plant and TPM activities at the Kawasaki Plant as small group initiatives.

We will continue to advance multifaceted activities, and efforts to prevent accidents and malfunctions.

Definitions

HAZOP (Hazard and Operability Study)

A safety evaluation method for systematically evaluating the adequacy of safeguards in plants and eliminating latent risks in plants through comprehensive detection

HMI (Himeji Monozukuri Isshin) activities

These activities advance improvement and innovation at the Himeji Plant.

TPM (Total Productive Maintenance) activities

These improvement activities seek to realize production methods that pursue the highest overall efficiency in production systems.

>>> Systematic implementation of safety measures

We are systematically executing measures to prevent the occurrence of similar disasters. For long-term maintenance, we are advancing their application to maintenance plans. We are also systematically advancing measures to handle the aging degradation of facilities.

>>> Earthquake preparedness

Following the Great East Japan Earthquake of 2011, we reviewed our earthquake preparedness from both tangible and intangible aspects in order to prepare for a future massive earthquake and tsunami and are adopting the necessary measures in a planned manner.

Moreover, regarding the existing measures that are in place to improve the seismic resistance of high-pressure gas facilities, we confirmed that all spherical reservoirs with steel tube bracing as well as the towers and tanks considered important high-pressure gas facilities for seismic design meet the seismic standards for reporting to the relevant authorities. Regarding our piping facilities, we continued to implement seismic resistance measures in fiscal 2018.

>>> Enhancing education and training

In order to upgrade the skills and expertise required to maintain safe operation, we are fulfilling the requirements for training-related risk management at our chemical plants.

Continuing an initiative launched in fiscal 2016, we invited instructors from the Sanyo Association for Advancement of Science & Technology to both our Himeji and Kawasaki plants, and held courses about risk management. With a focus on foreman and higher levels, 124 employees took the classes. Furthermore, to improve the safety competency of managerial staff, we held a lecture about safety management as we had in fiscal 2016 with 55 people participating from every workplace including our research centers.

With the goals of increasing the competency of the employees who implement HAZOP and cultivating the next generation, we invited outside lecturers to both plants and held HAZOP trainings again in fiscal 2017.

Furthermore, at both plants, we have collected and arranged "know-why" information in order to make people understand the origins of procedures and rules and to enable the transmission of skills. We are utilizing this information for teaching.

The opinions voiced by our employees have encouraged us to continue conducting training both inside and outside the company in the future with the intention of improving knowledge of safe operation and increasing safety awareness.



HAZOP training

>>> Maintenance and improvement of safety management efforts

In fiscal 2017, executive management conducted RC inspections for both Himeji and Kawasaki plants, verifying the safety management efforts of both plants.

Moreover, our head office with the Executive Officer of the Responsible Care Division as the head of the auditing committee conducted audits based on our Safety Management Regulations for both the Himeji and Kawasaki plants again, having done so in fiscal 2016. In this way, we are seeking to continuously improve our safety management efforts.

>>> Improving emergency drills

We have established disaster prevention arrangements at every workplace, and we systematically conduct a variety of emergency drills every year.

At our Himeji Plant, we conducted general emergency drills in collaboration with the Himeji Fire Department and its Aboshi Fire Station. At our Kawasaki Plant, we conducted general emergency drills with the Rinko Fire Station and the local disaster prevention council. Furthermore, at our Suita Research Center, we also conducted general emergency drills with the Suita Minami Fire Station.

By taking issues that were made apparent in various types of trainings and applying them to the next trainings, we will continue to review and strengthen our disaster prevention, including related arrangements, education and training.



General emergency drill at the Himeji Plant



General emergency drill at the Kawasaki Plant



General emergency drill at the Suita Research Center

>>> High-pressure gas safety accredited plants

The Ministry of Economy, Trade and Industry accredited the Chidori Plant and the Ukishima Plant located at our Kawasaki Plant as "Accredited Completion Inspection Executor and Accredited Safety Inspection Executor" for high-pressure gas. Reaccreditation inspections are conducted every five years.

This system allows for the continuous operation of high-pressure gas production facilities and autonomous safety inspections by companies with competent self-managed safety systems. Accreditation for our Chidori Plant was renewed in August 2017.

Process Safety and Disaster Prevention Initiatives

Strengthening a culture of “safety prioritization”

We believe that to strengthen a culture of safety prioritization, we must be aware that safety is not something provided by others, but rather it is something that we think about and gain individually, and we must reflect this knowledge in the behavior of organizations and individuals.

Both of our plants are undertaking unique efforts to strengthen a culture of safety prioritization. For example, employees at our Himeji Plant conducted self checks of fundamental safety behavior, and employees at our Kawasaki Plant undertook safety behavior check activities.

Moreover, our Kawasaki Plant received third-party evaluation of safety competency from the Japan Safety Competency Center in January 2018. We are reflecting the contents of their recommendations in our fiscal 2018 plan as we seek to continuously improve our safety competency.



Safety Oath Ceremony

Preventing accidents caused by a loss of collective memory

To show our determination that we will never forget the accident of 2012 and that we will not let such an accident happen again, we held a Safety Oath Ceremony in front of our Safety Oath Monument at the Himeji Plant in fiscal 2017, vowing once again to continue improving our safety competency.

Commendations

An employee of our Himeji Plant was highly evaluated for his efforts and achievements in safety maintenance over many years and received a safety award at the 35th Plant Safety Promotion Meeting of the Japan Petrochemical Industry Association.

In addition, an employee of our Suita Research Center was highly evaluated for his achievements for safety efforts over many years and received an individual safety achievement award at the Safety Convention held by the Ibaraki Labor Standards Association.



Safety Oath Monument



Receiving award at the Plant Safety Promotion Meeting of the Japan Petrochemical Industry Association



Receiving award at the Safety Convention held by the Ibaraki Labor Standards Association

Responsible Care Activities

Logistics Safety Initiatives

We have commissioned Nisshoku Butsuryu Co., Ltd. to handle all our logistics operations. In order to ensure the safety and quality of our logistics tasks, they cooperate closely with the Environmental Safety and Quality divisions of both our Himeji and Kawasaki plants where we work diligently to prevent logistics accidents.

Our head office conducted audits of logistics safety and interviewed personnel at Nisshoku Butsuryu regarding their Responsible Care initiatives again in fiscal 2017.

We are committed to improving our ability to respond to accidents on transportation routes by periodically conducting drills. Through this effort, we are helping to prevent accidents during product shipments while minimizing damage should an accident occur.



Training for accidents during the transport of ethylene oxide

Definition

Safety Competency Center

The Japan Society for Safety Engineering established this third-party safety organization in April 2013 to disseminate the safety competency evaluation system throughout industry.

Ensuring Continuous Improvement through Our Occupational Safety and Health Management System

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

In addition, we are striving to achieve zero industrial injuries by systematically implementing various basic safety initiatives, including KY risk prediction, close call and 5S campaigns, as well as by conducting a variety of education and training as part of our Occupational Safety and Health Management System.

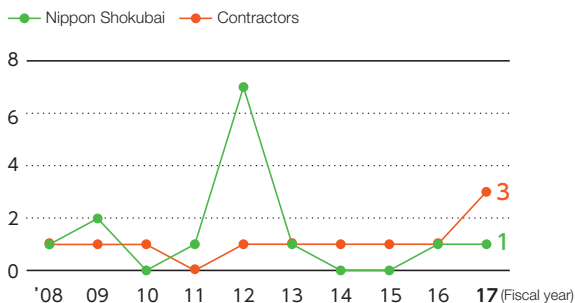
>>> Risk assessment

Since the introduction of the Occupational Safety and Health Management System, we have undertaken risk assessments of work at each workplace, reducing or eliminating the sources of risks associated with work. Moreover, we are systematically implementing risk assessments for chemicals and striving to further decrease risks.

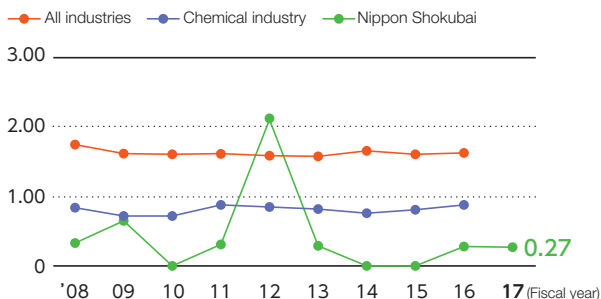
>>> Occurrence of industrial injuries

In fiscal 2017, we experienced one injury with loss of workdays and four injuries without loss of workdays. Our contractors experienced three injuries with loss of workdays and five injuries without loss of workdays. At our company, industrial injuries occur at a high rate among younger workers, so we are introducing examples of such injuries and advancing countermeasures throughout the business simultaneously as we endeavor to prevent recurrence.

Trends in Injuries with Loss of Workdays



Trends in Frequency of Injuries with Loss of Workdays*



* Industrial injuries per million working hours

>>> Basic safety initiatives

In an effort to prevent industrial injuries, we are committed to daily safety initiatives targeting work-related risks. Specifically, we remain focused on our "5S" campaign in the workplace, our *hiyari hatto* practice of collecting reports of "close-call" incidents, and our *kiken yochi* (KY) or "risk prediction" campaign before work. This includes Group KY before work, KY for individual workers, and KY coordination between workers and the control room via Mobix radio. We also conduct systematic KY-focused drills and training, such as KY training with case sheets and KY workshops.

>>> On-site training sessions

We hold a variety of on-site training sessions that provide operators and workers with hands-on training in skills such as valve opening and closing as well as flange disassembly and reassembly. Training also includes dealing with exposure to liquids, electrical hazards, and risks of working at height as well as demonstrations of the entanglement hazards of rotating machinery.



On-site training sessions

>>> Addressing the health issues of company retirees

Since our company was established, we have never manufactured products containing asbestos; however, we have used insulation and sealing materials that contained asbestos.

For this reason, we support our retirees by offering consultations on health issues and providing health check-ups to those who request them. Information regarding these services is posted on our website.

Definitions

Close-calls (*hiyari hatto*)

Even where no accidents have occurred in day-to-day operations, we monitor workers' experiences of "near misses" or "scares" in order to clarify why such events occur and how we can avoid them. From the results, we can adopt safety measures applicable to both facilities and actions.

KY Campaign (risk prediction campaign)

This campaign is intended to prevent injuries by highlighting, at meetings before work, the risk factors (unsafe behaviors and unsafe conditions) that remain hidden in work practices and by implementing measures to address them.

5S Campaign

This campaign promotes the 5 "S" practices, which can be translated as sort, set in order, shine, standardize and sustain.

Promoting Chemical Management

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 problems 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.

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 the product life cycle that encompasses material procurement, processing, production, application, and disposal according to the terms of Responsible Care, we apply our technical expertise at each stage to determine whether to proceed to the next stage.

Product safety initiatives

We prepare GHS-compliant SDSs, warning labels, and Yellow Cards for the logistics sector and provide information to customers while promoting training sessions for our employees. Regarding application-specific products used in pharmaceutical raw materials, pesticides, cosmetics, and food additives, our Product Safety Review Sub-committee conducts stricter checks on product safety while ensuring compliance with the Product Liability Act.

Accommodating chemical registration requirements within and outside Japan

In collaboration with specialized institutions and our Group companies outside Japan, we are responding appropriately to laws and regulations both within and outside Japan that require us to register chemical substances. Regarding the European Union REACH chemical regulation, we registered all substances subject to the three registration deadlines thus far, which were at the ends of November 2010, May 2013 and May 2018.

We will continue to maintain and manage registered substances as well as respond to new substance registration requirements. We are also advancing responses to new overseas chemical registration regulations.

Addressing import/export controls

In order to ensure legal compliance regarding imports and exports, we have streamlined our process for strengthening company regulations; determining whether a product is subject to import/export restrictions; keeping our employees informed about whether a product has been subject to import/export restrictions; recording applicable items on the relevant SDS; and improving our shipping management system for coordination with our enterprise resource planning (ERP) backbone accounting system. We also conduct regular internal training on import/export management.

Promoting a voluntary initiative of the JCIA

We participate in JIPS (Japan Initiative of Product Stewardship), a voluntary initiative for strengthening chemical management promoted by the Japan Chemical Industry Association, by which a safety summary is prepared and released to the public.

Establishment of a chemical substance management system

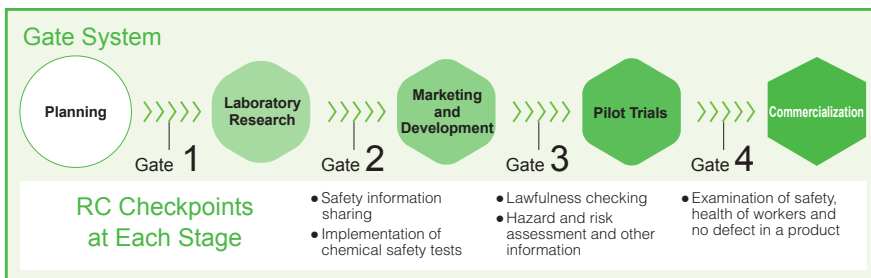
We are implementing a comprehensive chemical substance management system that can respond quickly to risk assessments, the issuance of SDS, and surveys from customers querying us on the chemical content of our products. We have created and launched this system by providing centralized management of various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



Sample SDS



Sample warning label



GHS pictograms

Definitions

GHS
An abbreviation for Globally Harmonized System of Classification and Labeling of Chemicals, GHS reflects the physical, health and environmental hazards of chemicals determined in accordance with international standards. Under this system, chemical products identified as presenting a hazard are categorized according to international standards and displayed on containers and in the respective SDS. Countries around the world have also introduced this system on the recommendation of the United Nations. This system is enforced in Japan through the Industrial Safety and Health Act.

SDS (Safety Data Sheet)
The Safety Data Sheet lists a chemical's properties as well as data on its hazards, applicable laws, proper handling and transportation requirements, and specific emergency response measures in a prescribed format. We prepare an SDS for each of the products we manufacture and develop and provide them for our customers. We are implementing a system for distributing these documents to all employees through our chemical substance management system.

Yellow Card
Carriers who transport hazardous products must carry a yellow card for reporting information about their cargo to fire squads in the event of an accident. The yellow card lists a product's hazards, first aid procedures in an accident, and emergency contact information. As part of its promotion of Responsible Care, the Japan Chemical Industry Association prepares and manages guidelines on the procedures for preparing a yellow card in order to strengthen first aid measures in the event of an accident.

Promoting Quality Initiatives

Our basic policy related to quality is to provide products and services that fully satisfy our customers while earning their trust. We also strive to maintain or improve our quality levels.

Customer satisfaction initiatives

All our plants and all Group companies engaged in manufacturing and logistics have introduced quality management systems. From the product development stage through manufacturing and delivery, we implement our quality assurance initiatives from the customer's perspective.

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



Quality control convention

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 studies.

In addition, we provide appropriate advice on quality issues to Group companies in Japan, conduct quality exchange meetings and quality roundtables, and promote quality initiatives throughout our Group. In this way, we remain proactively committed to preventing the emergence of quality problems.



Quality exchange meeting

We also provide advice to our Group companies outside Japan on the topic of quality issues in various ways. We are sharing them via cloud servers and hold quality meetings with quality managers to discuss the quality activities of each site, especially prevention actions, so that each site can incorporate innovative suggestions. As for particular quality initiatives at individual sites, managers are encouraged to introduce prevention initiatives and exchange opinions so that they can incorporate the innovative suggestions that are shared.



Members of overseas quality assurance manager meeting



Opinion exchange meeting between Sino-Japan Chemical and Himeji Plant staff

Strengthening the audit system

We have established quality management systems to ensure the safety and reliability of our products. In response to growing social demands for product quality and reliability, we continue to strengthen quality audits at all our plants and Group companies inside and outside Japan to improve quality management in the Nippon Shokubai Group.

Introducing products with halal certification

We have acquired halal certification from the Japan Muslim Association for the products described below, which were approved by the Shariah Research Institute of Takushoku University.

Parts of Southeast Asia, most notably Malaysia and Indonesia, are home to many Muslims, and demand from food-related businesses has been increasing for halal-certified ingredients and production processes. In 2014, in response to this situation, we acquired halal certification for our organic acids used as food additives (including succinic acid). In 2015, we acquired certification of our sodium polyacrylate for food-additive, feed-additive and industrial grades. As a result, we expect demand to continue increasing in Southeast Asia. By responding to social needs, we are providing society with greater richness and comfort across a wide range of fields.

Note: The products for which we have acquired halal certification as of April 1, 2018, are succinic acid, succinic acid disodium, maleic anhydride, AQUALIC FH (a thickener), AQUALIC MH (a feed binder), and AQUALIC IH (a flocculant).



Definitions

JIPS

To achieve the UN-mandated goal of "minimizing chemical risks to human health and the environment from manufacturing and using chemical products with the aim of achieving the targets by 2020," the chemical industry is strengthening its chemical management on a global scale. The Japan Chemical Industry Association is promoting an initiative named Japan Initiative of Product Stewardship (JIPS) in Japan. It conducts risk evaluations of chemicals, prepares safety summaries that clearly list the results of the evaluations, and releases this information to the general public to improve public awareness.

Risk Assessment of Chemical Substances

Chemical risk assessment entails evaluation of the risk of various toxic hazards associated with chemical substances. Chemical manufacturers have the social responsibility to minimize the risk of chemical substances and are required to implement voluntary Responsible Care activities.

Halal Certification

A certification with religious relevance, granted by the relevant organizations when certain standards are satisfied, for products and services targeted at Muslim customers.

Himeji Plant

Plant Outline

Plant Manager: Kazukiyo Arakawa, Executive Officer
 Location: 992-1 Aza-Nishioki, Okihama, Aboshi-ku, Himeji
 Number of employees: 1,078 at the Himeji Plant;
 124 at research centers in the Himeji district
 Products: Acrylic acid, acrylates, maleic anhydride, superabsorbent polymers, resin modifiers, electronic information materials, De-NOx catalysts, dioxins decomposition catalysts, and other products

Fiscal 2017 Results of RC Activities

- In terms of occupational safety and health, we had four injuries without loss of workdays, but extended the number of days free of injuries causing loss of workdays to over 1700.
- For process safety and disaster prevention, we had zero class A and B process safety accidents.
- For environmental protection, we worked to reduce environmental impacts and cut the waste emissions by 24% compared to the previous fiscal year.
- We started the second half of HMI2020 activities (fiscal 2017–2020) with a focus on operational management, facility maintenance and human resource development.



Kazukiyo Arakawa, Plant Manager

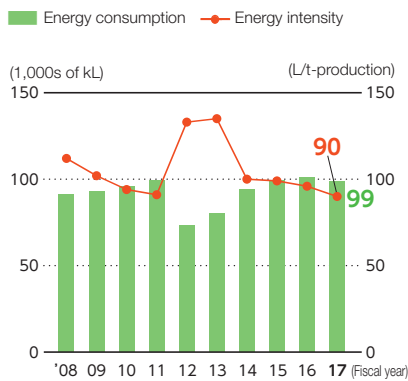
In fiscal 2017, toward the goal of “earning even more trust,” along with thoroughly implementing fundamental items related to safe and reliable operation, we sought to increase the efficacy of our HMI2020 activities and related activities.

Every plant employee has made a conduct declaration, and we are advancing the regularization of fundamental conduct through safe conduct self checks. In addition, we are undertaking risk reduction activities at every workplace. Moreover, through HMI team activities, we have reduced alarms and facility troubles and advanced education

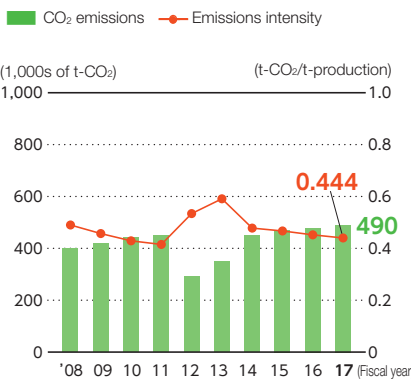
and training program reviews and operation improvements. Furthermore, we have been advancing physical and behavioral measures. Along with energy conservation and other environmental impact reductions, this includes the prevention of process safety incidents and water emission problems through, for example, the reduction of leakage risks.

We will continue striving for safe and reliable operation, seeking to be a “truly stable plant that can contribute to society.”

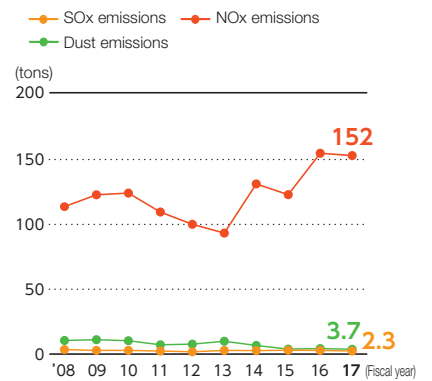
Trends in Energy Consumption and Intensity



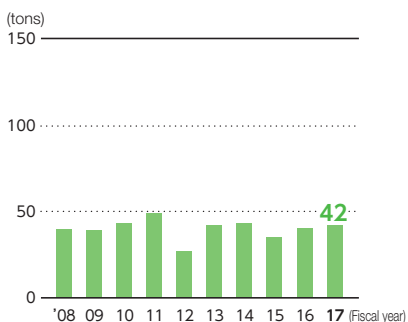
Trends in CO₂ Emissions and Intensity



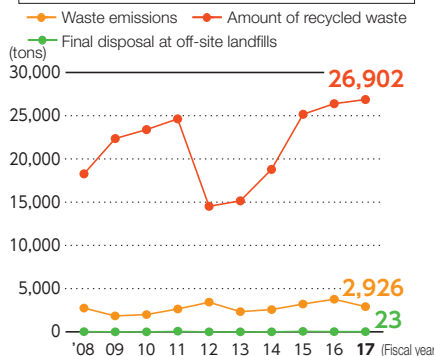
Trends in Emissions of SO_x, NO_x, and Dust



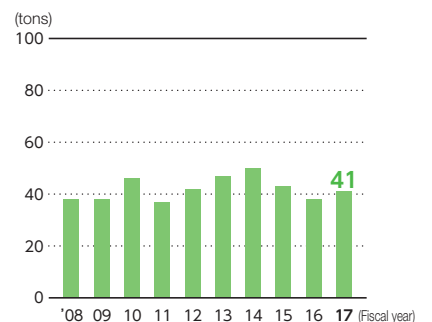
Trend in COD of Wastewater



Trends in Amount of Waste, Recycled Waste, and Waste for Final Off-site Landfill Disposal



Trend in Emissions of Substances Subject to the PRTR Law



Kawasaki Plant

Plant Outline

Plant Manager: Teruo Kamei, Managing Executive Officer

Location:

Chidori Plant 14-1 Chidori-cho, Kawasaki-ku, Kawasaki
 Ukishima Plant 10-12 Ukishima-cho, Kawasaki-ku, Kawasaki

Number of employees: 365

Products: Ethylene oxide, ethylene glycol, ethanolamine, secondary alcohol ethoxylates, polymers for concrete admixture, acrylic acid special ester, and other products

Fiscal 2017 Results of RC Activities

- In terms of occupational safety and health, two injuries with loss of workdays (employee burn, contractor fall) and one injury without loss of workdays (contractor cut) occurred.
- Regarding process safety and disaster prevention, we experienced one process safety accident corresponding to class B (tank deformation).
- We implemented thorough recurrence prevention measures for the above troubles.
- We continued striving to improve energy intensity and to reduce emissions of waste and substances subject to the PRTR Law.

In fiscal 2017, we established new Key Performance Indicators (KPI) to evaluate the degrees of achievement of our priority efforts for occupational safety and health as well as for process safety and disaster prevention. Our efforts included reducing work danger, a close call activity and human resource development.

We implemented a variety of energy conservation measures, and improved energy intensity.

Implementing equipment measures for boron and dioxane, we



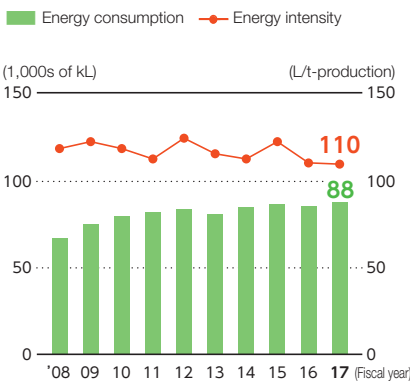
Teruo Kamei, Plant Manager

steadily reduced emissions of substances subject to the PRTR Law.

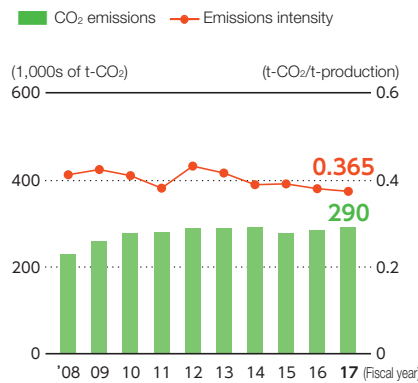
We are making efforts to enhance our human resource development. For example, we revised our basic education for young operators and our on-the-job training education system.

We will continue to promote our Responsible Care initiatives with the goal of ensuring our plant remains safe and reliable.

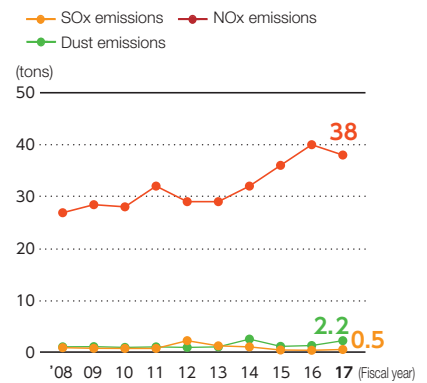
Trends in Energy Consumption and Intensity



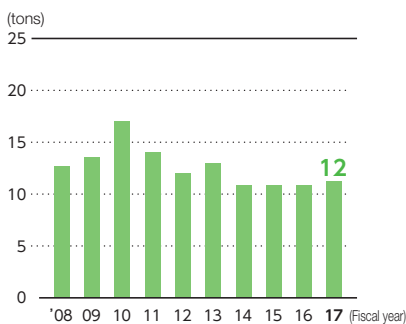
Trends in CO₂ Emissions and Intensity



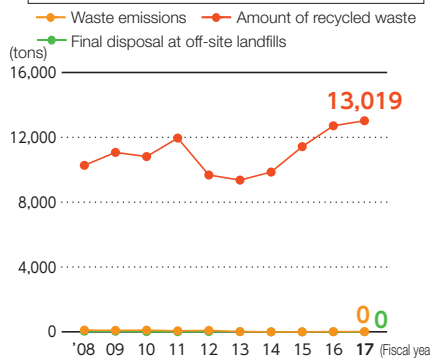
Trends in Emissions of SO_x, NO_x, and Dust



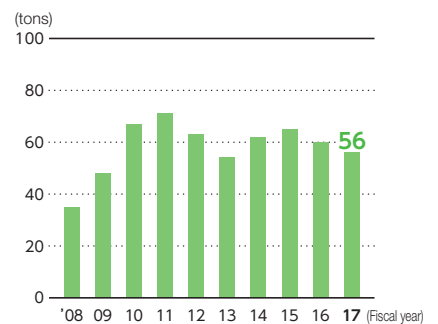
Trend in COD of Wastewater



Trends in Amount of Waste, Recycled Waste, and Waste for Final Off-site Landfill Disposal



Trend in Emissions of Substances Subject to the PRTR Law



Vanadium compounds have been designated since fiscal 2010.

Initiatives for Group Companies

In the interests of strengthening group management, we are providing active support for the Responsible Care initiatives of our Group companies.

RC discussions

At Nippon Shokubai, in order to actively promote concrete Responsible Care initiatives for Group companies both inside and outside Japan, we conduct RC discussions, and in fiscal 2017 we visited six companies in Japan and four outside the country.

In these discussions, we received reports of policies, planning, and achievements of each company's Responsible Care initiatives as well as reports on individual improvements on-site. We also exchanged opinions with each company and provided them advice and support.



RC discussion at Nippon Chemicals Co., Ltd.



RC discussion at Sino-Japan Chemical Co., Ltd.

Environmental and safety audits

We conduct environmental and safety audits at our Group companies in Japan in order to strengthen our environmental safety management system.

In these audits, we confirmed compliance with legal requirements such as the terms of the Industrial Safety and Health Act and Fire Service Act as well as regulatory compliance related to safety and the environment. We also determined whether the PDCA cycle had been incorporated through the implementation of management systems related to safety and the environment.

From the results of the audits, we identified cases with room for improvement and requested that improvements be addressed.

Through these audits, we are taking steps to improve the Responsible Care initiatives of domestic Group companies.



Environmental and safety audit at Nippon Polymer Industries Co., Ltd.

Reciprocal RC inspections

We implement reciprocal inspections at our Group companies in Japan twice annually for the purpose of improving the awareness and knowledge of those in charge of Responsible Care.

In fiscal 2017, Tokyo Fine Chemical Co., Ltd. and Nisshoku Techno Fine Chemical Co., Ltd. were identified for reciprocal inspections, and we inspected their Responsible Care initiatives.

In these inspections, by having the subject companies introduce their Responsible Care initiatives, we are seeking to share information among Group companies in Japan and raise their levels. In addition, for industrial injuries that occurred in our company and our domestic Group companies, we are working to prevent similar injuries by analyzing the causes from human, material and management aspects and creating countermeasures.



Reciprocal inspection at Nisshoku Techno Fine Chemical Co., Ltd.

Group Companies in Japan

NIPPON POLYMER INDUSTRIES CO., LTD.

Principal business | Manufacture and sale of acrylic resins

In fiscal 2017, Nippon Polymer Industries once again carried out the annual joint disaster-response drill with the public fire brigade and the Nippon Shokubai Himeji Plant fire brigade. The company also conducted a tsunami evacuation drill, evacuating to the roof of its new administration building (built new in fiscal 2016).

In addition, we transferred the watch room, which is used for watch duties at night and during holidays in accordance with the Act on the Prevention of Disaster in Petroleum Industrial Complexes and Other Petroleum Facilities. We moved it from the second floor of the old administration building, which is aging, to the second floor of the testing building, which has excellent earthquake resistance. The company also refurbished the interior, increasing both safety and comfort. Furthermore, the company also worked to increase traffic safety on its sites by repainting on-site road indications, installing additional mirrors along turns, cleaning them and revising on-site traffic rules, for example.

The company will continue working to enhance and improve its Responsible Care activities from a variety of angles.



Joint disaster-response drill



Tsunami evacuation drill

Interview

Reducing power use by reviewing the operation times of cold water pumps

As a part of overall efforts to reduce the amount of power used, we focused on the operation conditions of refrigeration equipment in the manufacturing process. In particular, coolant pumps and cold water pumps are operated for long times from the starts to the ends of reactions. Among these, we investigated and implemented shortening the operation time of those that are used at lower temperatures to the extent that there is no effect on product quality.

As a result, we succeeded in shortening the operation time by about 40% on average per production batch compared to before, contributing to reducing the amount of power used.

These results were also included in the Environmental News (fiscal 2017 issue 2) published in-house by the Environmental Management Committee.

We will continue seeking to conserve energy through the efficient operation of facilities.



Mitsuaki Miyashita

Production Technology Section
Production Department
NIPPON POLYMER INDUSTRIES CO., LTD.

CHUGOKU KAKO CO., LTD.

Principal business | Manufacture and sale of adhesive-processed products and fine sphere particles

In fiscal 2017, Chugoku Kako had one injury without loss of workdays, but zero injuries with loss of workdays, extending this record to 600 days, and the company received a type I commendation (effort award) from the Japan Industrial Safety and Health Association. In addition to steady implementation of recurrence prevention measures and continuous safety education, the company seeks to enhance risk assessment efforts to reduce workplace risks and elevate the safety mindset. Moreover, as the company approaches 10 years since it received Eco Action 21 certification for environmental protection efforts, its efforts to reduce waste and energy use have also become well-established. The company will continue to work to reduce environmental impacts through production activities that are free of waste, loss and error.



Type I commendation (effort award)



Eco Action 21 ten-year achievement award

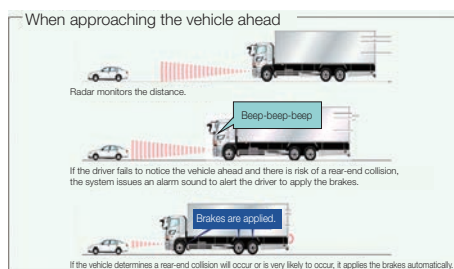
Nisshoku Butsuryu Co., Ltd.

Principal business | Logistics of chemicals

The Nisshoku Butsuryu Group continues to sharpen its focus on environmental protection, logistics safety, and logistics 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. The following are examples of its initiatives.

- Proactively pursuing a commitment to safety management (transportation safety management) as a truck transport company and introducing a combination of digital tachometers, GPS units, and drive recorders (comprising an advanced driving information system known as *Mimamorikun*), lane-departure warning devices, and supplemental rear-view cameras. The introduction of these safety devices follows risk evaluations supporting energy-efficient driving methods, safe driving, and accident response.
- In fiscal 2014, the company introduced vehicles mounted with pre-collision warning systems* as part of its effort to minimize accidents.
- Systematically conducting voluntary checks of tankers in an effort to prevent leakage during transport.
- Since fiscal 2017, the company has been implementing joint transportation with other companies in the same industry for small cargo quantities in order to enable safe and stable transportation that can respond to environmental changes.

* Pre-collision warning system (Since November 2014, this feature has gradually become mandatory.)



Group Companies in Japan

NIPPON NYUKAZAI CO., LTD.

Principal business Manufacture and sale of surfactant and other chemicals

Nippon Nyukazai established a new 4th Medium-term Responsible Care Plan (spanning fiscal 2017–2020) and is advancing RC activities in its first year. For occupational safety and health, the company is conducting risk assessments for dangerous work and endeavoring to reduce danger levels as necessary. As a result, the company continued to have zero industrial injuries. For environmental protection, the company carried out “energy intensity improvements through thermal recovery from distillation facilities” as part of the Kashima Plant Energy Conservation Plan that it has been actively pursuing. From the perspective that actively taking in knowledge from outside the company is important for process safety and disaster prevention, the company implemented special process safety education using an external instructor as a new action in fiscal 2017. Doing so, the company endeavored to increase expertise and sensitivity for detecting dangers with examples from other companies of accidents and their causes. As a result of promoting efforts that contribute to the prevention of abnormal phenomena over numerous years, the company was asked to give a lecture by the Kawasaki City Fire Department. A representative reported on the activities of the company in a talk entitled, “About our efforts to prevent accidents.” The company will continue to strive for safe operation and seek to enhance and advance its Responsible Care efforts further.



Special safety education provided by an outside instructor (from the Sanyo Association for Advancement of Science & Technology)



Lecture at the Kawasaki City Fire Department auditorium

TOKYO FINE CHEMICAL CO., LTD.

Principal business Manufacture and sale of stabilizers of vinyl chloride resins, antifreeze, antiseptics, and antifouling agents

In fiscal 2017, Tokyo Fine Chemical implemented Responsible Care initiatives under the Corporate Credo, “Safety takes priority over production” with a policy of establishing a safe and effective production system. As a result, for process safety and disaster prevention, the company achieved a record of zero facility disasters or accidents, while for occupational safety and health, it achieved a record of zero industrial injuries.

For process safety and disaster prevention, in addition to continuing the general disaster prevention drills, earthquake drills and holiday and nighttime contact drills of the past, the company conducted new trainings for accidents during transport. These exercises, which it determined to do every year, were conducted jointly with Nisshoku Butsuryu Co., Ltd. Moreover, the company was able to safely carry out the removal of a deteriorating 30m smokestack, which had been under consideration for many years.

Related to environmental protection, the company replaced a decrepit gas boiler with a high-efficiency boiler, reducing energy use and greenhouse gas emissions, among other benefits.

In the future, the company intends to promote its Responsible Care efforts and strive for operational safety while aiming to strengthen and enhance its activities.



Smokestack disassembly



Rapid response team checking materials and equipment

NIPPOH CHEMICALS CO., LTD.

Principal business Manufacture and sale of iodine, intermediates for API and agro-chemicals, flame retardants, and photo/electro chemicals

Continuing from fiscal 2015, with the slogan “absolutely zero industrial injuries,” Nippon Chemicals conducted a variety of efforts to foster a safety culture. Moreover, in fiscal 2017, it worked on the transition to ISO 9001 and 14001: 2015 standards. The company reinspected systems, revised related documents and held study meetings, for example, maintaining its certification.

For process safety and disaster prevention, seeking to prevent accidents and disasters caused by static electricity, it invited an expert who conducted a class incorporating static electricity safety diagnoses and experiments. Reminded of the importance of discharging electricity, it installed static electricity shoe checkers and static electricity measuring instruments.

As efforts to prevent troubles related to safety and quality, the company has strengthened human error countermeasures, for example, advancing the review of indication identification and work procedures. Nippon Chemicals will continue to promote Responsible Care efforts with full participation.



Static electricity shoe checker procedures and measurement scenes

NISSHOKU TECHNO FINE CHEMICAL CO., LTD.

Principal business Manufacture and sale of (meth)acrylic acid derivatives and photo/electro chemicals

Nisshoku Techno Fine Chemical has been focusing on efforts to prevent industrial injuries, but unfortunately two injuries resulting in the loss of workdays occurred this fiscal year. One injury involved putting a hand into operating equipment that was turning and being pulled in. The other was a burn caused by a fire ignited by static electricity during the handling of an organic solvent. For both cases, the company implemented necessary safety countermeasures, including equipment measures. Since diligent efforts are necessary in seeking to reestablish zero injury records for both “loss of work day” and “no loss of work day” types, the company will keep eliminating unsafe work practices, while continuing risk assessment activities and utilizing “KY” risk prediction and “HH” close-call incident reporting. Moreover, by continuously implementing hands-on education both in and out of the company, it will raise employee sensitivity to danger.

The company undertook environmental protection efforts with the goal of reducing intensities compared to fiscal 2016 for amounts of waste generation, emissions of substances subject to the PRTR Law and energy use. Unfortunately, it was unable to achieve its targets due to increased cleaning wastewater from trial manufacturing, for example.

For process safety and disaster prevention, the company is working to improve its ability to respond at times of emergency. In addition to the annual general emergency drill, the company continuously conducts emergency drills at each of its worksites and receives the guidance of the Joint Disaster Prevention Team.



General emergency drill

Initiatives of Group Companies

Group Companies Outside Japan

SINGAPORE ACRYLIC PTE LTD

Principal business | Manufacture and sale of crude acrylic acid

As part of the environment and safety activities of SMAG (a conglomerate of Japanese companies in the same complex), throughout the month of June, a variety of safety promotional activities have been organized for all SMAG employees and in-house contractors, including emergency drill exercises.

The safety promotional theme "Situational Awareness" was selected mainly due to the poor safety record for SMAG in-house contractors during the 1st half of fiscal 2017. An external consultant was engaged to conduct a "Hearts and Minds" training to enhance the supervisory skills of shift team superintendents with the main intention of reducing incidents and near misses at work. The SMAG HSE department has also on their patrol checks regularly spotted any unsafe conditions and acts.



In-house training with external consultant

In addition, the company also held a complex emergency drill with evacuations together with a citizen emergency brigade and the Singapore Civil Defense Force.



Fire extinguishing drill

Interview

Complying with Workplace Safety and Health Regulations

Singapore has revised Workplace Safety and Health (Major Hazard Installations) Regulations as of September 1, 2017.

To meet the MHI regulation criteria for our large storage facilities of acrylic acid and other hazardous chemicals, we have begun to compile documentation, with advice from an expert consultant.

As this is a huge project, we are committed to meeting ever-changing new regulations as we embark on this new era of society that is more conscious of safety and the environment.



Mr. Eugene Tan
Technical & Coordination,
Senior HSEQ Officer

SINO-JAPAN CHEMICAL CO., LTD. (Taiwan)

Principal business | Manufacture and sale of surfactant and other chemicals

Sino-Japan Chemical introduced TPM initiatives in January 2014 with the goal of "Zero industrial injuries, zero defects and zero malfunctions."

The company unfolded its efforts in five working groups based on five key TPM items: "continuous and effective reform," "improved specialization of operators," "zero production equipment malfunctions," "personnel cultivation through skill transmission" and "zero accidents and zero pollution." As a result of the unified efforts of all its employees over four years, the company was able to attain the TPM Excellence Award of the Japan Institute of Plant Maintenance (JIPM) in March 2018.

In 2017, the company also worked to transition to ISO 14001:2015 certification. It revised its work standards and documentation as well as undertook education and training to sustain its certification.



ISO 14001:2015 certification



Award ceremony

NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD. (China)

Principal business | Development, manufacture and sale of superabsorbent polymers and polymers for concrete admixture

As part of the company's Near Miss-Kaizen Activity 2017, 69 proposals — 24 of which were related to safety — were submitted. Twice annually, rewards are given to those who submitted the best or the most numerous proposals.

The company conducts ongoing emergency-response drills twice a year in collaboration with the Regional Fire Department and Regional Emergency Response Center in order to improve employee capabilities in the event of an emergency.

On December 21-22, 2017, an RC discussion was held with the RC Division of Nippon Shokubai, and mainly safety actions and plans were discussed.



Emergency response training



Emergency response training

Initiatives of Group Companies

Group Companies Outside Japan

Nippon Shokubai America Industries, Inc.

Principal business	Manufacture and sale of superabsorbent polymers, polymers for concrete admixture, water soluble polymers, and acrylic emulsions
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In 2017, Nippon Shokubai America Industries, Inc (NAII) continued to make great strides towards ensuring employee safety and environmental performance progression at both of its US facilities.

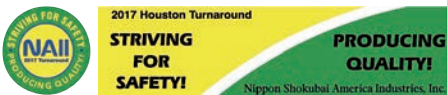
Realistic hands-on training and safety culture building were critical factors that enabled the Houston site to celebrate four years and the Chattanooga site six years with no Lost Time Accidents. The Houston facility improved on-site safety by participating in rescue training with its joint venture partner American Acryl, LP. Operations' members were also trained to appropriately handle fire, first aid, and hazardous material incidents.

NAII continued its tradition of holding Safety Slogan contests before major planned shutdowns to actively engage employees and underline the importance of safety during turnarounds. The winning slogan for 2017 was "Striving for Safety, Producing Quality!" Using this on hardhat stickers and a large banner helped keep this important guiding philosophy on the minds of all employees.

On October 3, 2017, NAII held a tree planting ceremony to celebrate 30 years of successful business.



Members of Joint Emergency Response Team receiving training on high angle rescues



Winner of Safety Slogan Contest



Tree planting ceremony at the Chattanooga site

PT. NIPPON SHOKUBAI INDONESIA

Principal business	Manufacture and sale of acrylic acid, acrylic esters, and superabsorbent polymers
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PT. Nippon Shokubai Indonesia (NSI) received the highest level of Green Industry Award from the Indonesian Ministry of Industry for the 5th time.

To achieve the Reborn Nippon Shokubai 2020 Next medium-term business plan, NSI promotes the Corporate Credo, "Safety takes priority over production" to all employees and contractors with credo signs installed at the plant. NSI is also committed to strengthening a safety first corporate culture while improving safety awareness, knowledge, and skills by continuously conducting tabletop exercises and field drills.



Green Industry Award ceremony



Plant emergency drill



Corporate Credo posted at the plant

NIPPON SHOKUBAI EUROPE N.V. (Belgium)

Principal business	Manufacture and sale of superabsorbent polymers
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The new acrylic acid plant introduces additional hazards, so a foam house was built to handle them. Operators from Nippon Shokubai Europe (NSE) and supporting Japanese colleagues received a joint training on its use. NSE considers training with safety critical installations to be a top priority.

The foam house can be operated locally by manual intervention, from the control room (DCS) or automatically by activation of detectors. NSE uses three types of detectors (TVOC, LEL and flame).

The distillation and crystallization sections, as well as bunds of the refrigeration section and acrylic acid/alcohol storage vessels (including waste oil vessels) can be foamed. Foam can even be injected into acrylic acid vessels because the local fire brigade requires internal vessel fires to be immediately extinguished.



Foam house

About This CSR Report

Editorial Policy

Corporate social responsibility (CSR) is a corporate initiative through which businesses take responsibility for the impact of their operations and contribute to sustainable growth in harmony with society and the environment. It encompasses the overall concept of corporate management and seeks to enhance the trust of the company's various stakeholders.

Nippon Shokubai began publishing its Environmental Report in fiscal 2002. In fiscal 2005, information on corporate social responsibility was included, at which time this publication was renamed the "Environmental and Social Report." In fiscal 2006, we established our CSR Management Committee and reported on our CSR initiatives in order to improve our CSR implementation structure. We also appended the subtitle, "Our Commitment to CSR."

Beginning with the 2015 issue, we further expanded the content related to corporate social responsibility and renamed the publication the "CSR Report."

◆ We have focused on increasing both the readability and ease of understanding for the benefit of our stakeholders.

◆ Since fiscal 2005, we have been including the results of an objective third-party evaluation of our Responsible Care initiative undertaken by the Japan Chemical Industry Association.

◆ We prepared this report with reference to the "Environmental Reporting Guidelines" (Fiscal 2012 Version) of Japan's Ministry of the Environment and the "Sustainability Reporting Guidelines" (Version 4) of the Global Reporting Initiative.

Scope of This Report

Organization

(Unless otherwise stated, all data on business performance refers solely to Nippon Shokubai Co., Ltd.)

NIPPON SHOKUBAI CO., LTD.

Osaka Office, Tokyo Office
Himeji Plant, Kawasaki Plant
Himeji Research Center
Suita Research Center

Group Companies in Japan

NIPPOH CHEMICALS CO., LTD.,
TOKYO FINE CHEMICAL CO., LTD.,
CHUGOKU KAKO CO., LTD.,
NIPPON POLYMER INDUSTRIES CO., LTD.,
NISSHOKU TECHNO FINE CHEMICAL CO., LTD.,
NIPPON NYUKAZAI CO., LTD., Nisshoku Butsuryu Co., Ltd.

Group Companies Outside Japan

Nippon Shokubai America Industries, Inc.
PT. NIPPON SHOKUBAI INDONESIA
NIPPON SHOKUBAI EUROPE N.V.
SINGAPORE ACRYLIC PTE LTD
NISSHOKU CHEMICAL INDUSTRY (ZHANGJIANG) CO., LTD.
SINO-JAPAN CHEMICAL CO., LTD.

Reporting period: April 1, 2017–March 31, 2018

Publication date: October 2018

This publication is a translation of the Japanese-language edition originally published in June 2018. In the event of any discrepancies in content or differences in interpretation, the Japanese-language version shall prevail.

Third-Party Review

The Japan Chemical Industry Association (JCIA) issued the "Independent Verification – Opinions" for our CSR Report 2018 (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.

「日本触媒CSR報告書 2018」
第三者検証 意見書
2018年6月6日

株式会社日本触媒
代表取締役社長 五嶋 祐治郎 殿

一般社団法人 日本化学工業協会
レスポンシブル・ケア検証センター長
永松 茂樹

■報告書検証の目的
本検証は、株式会社日本触媒が作成した「CSR報告書2018」(以後、報告書と略す)を対象として、下記の事項について、レスポンシブル・ケア検証センターが化学業界の専門家の意見を表明することを目的としています。

- 1) パフォーマンス指標(数値)の算出・集計方法の合理性及び数値の正確性
- 2) 数値以外の記載情報の正確性
- 3) レスポンシブル・ケア活動(以後、RC活動と略す)及びCSR活動
- 4) 報告書の特徴

■検証の手順

- ・本社において、各サイト(事業所、工場)から報告される数値の集計方法の合理性及び数値以外の記載情報の正確性について調査を行いました。調査は、報告書の内容について各業務責任者及び報告書作成責任者に質問すること並びに資料の提示・説明を受けることにより行いました。
- ・川崎製造所において、本社に報告する数値の算出方法の合理性、数値の正確性及び数値以外の記載情報の正確性の調査を行いました。調査は、各業務責任者及び報告書作成責任者に質問すること、資料の提示・説明を受けること、証拠物件と照合すること並びに現場を確認することにより行いました。
- ・数値及び記載情報の調査についてはサンプリング手法を適用しました。

■意見

- 1) パフォーマンス指標(数値)の算出・集計方法の合理性及び数値の正確性について
・数値の算出・集計方法は、本社及び川崎製造所において、合理的な方法を採用しています。
- 2) 数値以外の記載情報の正確性について
・報告書に記載された情報は、正確であることを確認しました。原案段階では表現の適切性あるいは文章の解かり易さについて若干指摘しましたが、現報告書では指摘事項は修正されています。
- 3) RC活動及びCSR活動の評価について
・CSRへの取組は社長のリーダーシップの下、5つのCSR関連委員会の位置付けを整理し、CSR推進体制を強化していることを評価します。今後一層のレベルアップを期待します。
- 4) 報告書の特徴
・サステナビリティ経営の実現のため「オープンイノベーションの積極活用」と「研究開発のトピックス」の特集記事を掲載していることを評価します。
- ・社会貢献の活動が、「日本及び中国の3ヶ所での日本触媒の森づくり」、「絶滅の危機にあった兵庫県のナシギク」の普及・保存活動、「次世代人材育成活動」等、多岐に亘りその内容を記載していることを評価します。

- 以上 -

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