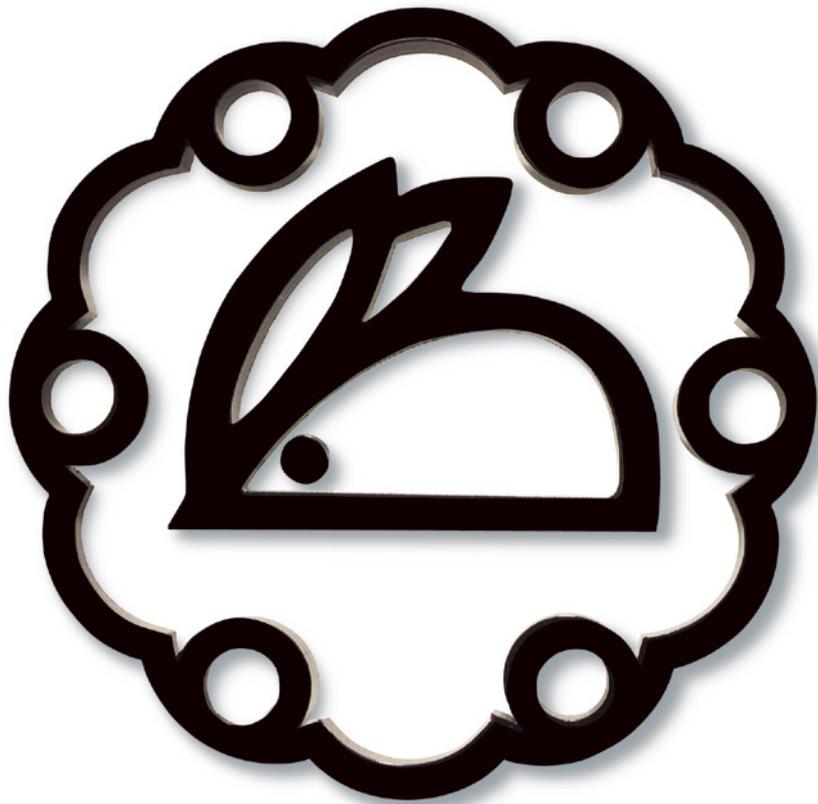


Nippon Soda Group

CSR Report 2018

Corporate Social Responsibility Report

[Online Full Report](#)



NIPPON SODA CO., LTD.

CSR Report 2018 (Online Version) Contents

CSR Reporting Policy	1	
Top Commitment	2	
CSR Management		
The Nippon Soda Group's CSR	3	
Business and CSR of the Nippon Soda Group	6	
Value Creation of the Nippon Soda Group	10	
Stakeholder Dialogue 2017	15	
CSR Management	19	
CSR Activities to Improve Corporate Value		
Agriculture	28	
Health Care	31	
Environment	33	
Information	36	
Initiatives for the Next Generation	38	
CSR Activities to Protect Corporate Value		
Environmental Protection	40	
Process Safety and Disaster Prevention/BCP	43	
Occupational Safety and Health	51	
Distribution Safety and Quality Assurance	55	
Chemicals and Product Safety	57	
Social Activities		
Together with Our Customers (Consumer Issues)	60	
Together with Our Employees (Human Rights/Labor Practices)	63	
Together with Our Business Partners (Fair Operating Practices)	67	
Together with Our Shareholders	69	
Together with Our Local Communities (Community Involvement and Development, Social Dialogue)	71	
Corporate Governance/Compliance/ Risk Management		77
ESG Data	83	
CSR Activities at Plants	90	
Third-party Evaluations	94	
Guidelines	98	

CSR Reporting Policy

Scope of the Report

This report summarizes CSR and RC activities of Nippon Soda Co., Ltd. and major Nippon Soda Group companies (three manufacturing group companies: Nisso Metallochemical Co., Ltd., Nisso Fine Co., Ltd. and Shinfuji Kaseiyaku Co., Ltd.; and five non-manufacturing group companies: Nisso Shoji Co., Ltd., Sanwa Soko Co., Ltd., Nisso Engineering Co., Ltd., Nisso Construction Co., Ltd. and Nisso Green Co., Ltd.). This report provides the actual results for fiscal 2018 (April 1, 2017 to March 31, 2018). The data on occupational accidents presented in this report are based on the actual results from January 1, 2017 to December 31, 2017. The financial data covers 18 consolidated subsidiaries and five equity-method affiliates.

Guidelines Used as References

Global Reporting Initiative: Global Reporting Initiative (GRI) Standards
The Japanese Ministry of the Environment's Environmental Reporting Guidelines 2012
Japanese Standards Association ISO 26000: 2010 Guidance on Social Responsibility

Online Version Publication Date

October 2018 (Next report scheduled to be issued in October 2019)

Responsible Care

Responsible Care (RC) was launched in 1985 in Canada. The International Council of Chemical Associations (ICCA) was established in 1989 and, as of January 2017, more than 44 countries and regions around the world participate in the Responsible Care initiative.

Editorial Policy

We have started this fiscal year to post detailed information on our website for the purpose of supplementing the booklet version, which provides information on the Nippon Soda Group's basic concept of CSR and CSR activities in an easy-to-understand manner, mainly in relation to three core issues: "CSR activities to improve the corporate value," "CSR activities to protect the corporate value" and "social activities." The results of the Nippon Soda Group's CSR activities are thus reported both in the booklet and via the website. With a focus on transparency and accountability, we designed our CSR report to help readers readily understand the Nippon Soda Group's CSR activities.

[Disclaimer] Our company's plans, prospects, strategies and other information contained in this report, excluding past performances and facts, have been prepared based on currently available information, hypotheses and judgments and are subject to various risks and uncertainties. Our predictions can be affected by various factors, such as future economic situations and industry trends, and may turn out to be incorrect.

Top Commitment

Fulfilling the Dreams of the Next Generation



As a chemical company that helps realize the dreams of the next generation, Nippon Soda will continue to contribute to creating of a sustainable society through collaborative efforts with stakeholders.

Akira Ishii

Akira Ishii

Representative Director, President
Nippon Soda Co., Ltd.

Nippon Soda's CSR management

We have entered the second year of the medium-term business plan that covers the period until 2020, the year that marks the 100th anniversary of the company's foundation. Under the themes of "speed and reform," our efforts have been steadily focused on expanding existing businesses, creating new businesses, promoting development, and enhancing the Group's business foundation.

Nippon Soda regards changes in society, the economy and the environment as business opportunities, and focuses on solving social issues and increasing corporate value through products and solutions in the domains of agriculture, health care, the environment and information. Activities to "further develop CSR management," one of the goals of the medium-term business plan, are essential for Nippon Soda to ensure its sustainable growth and to build a solid business foundation.

CSR is essential to the continued existence of our company. In our CSR management, a major emphasis is placed on the following three categories of activities (refer to page 4): "CSR activities to improve corporate value," which aim to contribute to society by providing products that maximize our positive impact as a chemical company; "CSR activities to protect corporate value," which aim to minimize negative impacts on safety, the environment and quality caused in relation to our business activities dealing with different chemical substances; and "social activities" to maintain harmonious relationships with stakeholders. We are promoting efforts to further improve these activities in line with our management strategy that aims to improve our sustainable corporate value.

As a materiality issue¹ of our CSR management, we aim to achieve the Sustainable Development Goals (SDGs), which were adopted by the United Nations in September 2016. We will continue our efforts to produce innovations that take advantage of features unique to Nippon Soda in a speedy manner. We will also continue our discussions on efforts to achieve certain SDGs so that we will be able to improve our presence in the global market as a chemical company that contributes to achieving a sustainable society.

To strengthen the business management foundation that supports the sustainable improvement of the corporate value and sustainable growth of the company, we will continue to promote highly sound and transparent corporate activities in compliance with laws, regulations and corporate ethics based on the Corporate Governance Code.

Promotion of diversity

A corporate group that values diversity does generate new innovations and increase its global competitiveness. Based on this idea, we consider the promotion of diversity to be an important management strategy. We will place an increased emphasis on a work style reform unique to Nippon Soda by helping employees play an active role passionately and willingly without fear of failure and creating an organizational climate where all employees can maximize their individual abilities.

Nippon Soda will continue to create innovations that fulfill the dreams of the next generation and contribute to achieving a sustainable society as a chemical company sought after by society.

1. Priority issues that should be addressed

The Nippon Soda Group's CSR

Founding spirit

The company emblem for Nippon Soda depicts a white hare, surrounded by a hexagonal snowflake. The six sides of this snowflake represent the following: honesty, industriously, originality & ingenuity, cooperation, service and thanksgiving. The white color of the hare and the snowflake represent virtue and a high level of purity.



Basic principles of management

Nippon Soda places primary importance on sound and transparent business management in compliance with law. Its management philosophy is to contribute to social development through chemistry, to meet expectations from stakeholders, including shareholders, business partners, employees and local communities, and to promote environmentally conscious business practices and activities. Under this philosophy, Nippon Soda is committed to growing into a technology-oriented group that develops high value-added products by making best use of its proprietary technologies and expands its business internationally with a focus on chemistry. Our efforts are also directed at enhancing the Group's revenue by developing our business with a focus on the chemicals industry in such areas as commercial distribution, logistics and engineering.

Basic concept of CSR

The Nippon Soda Group is working to improve its corporate value by creating new value through the power of chemistry and contributing to society through products as a chemical group. In this way, we strive to contribute to the enrichment of people's lives, and to resolve the problems affecting our society and our global environment. To achieve this, we are advancing the following initiatives.

1. CSR activities to protect corporate value¹

Pursuit of economic performance, and activities to ensure safety, environmental friendliness, quality assurance, etc.

2. CSR activities to improve corporate value²

Making contributions through our business toward resolving social issues so as to help achieve the development of a sustainable society

3. Social activities

Social contributions

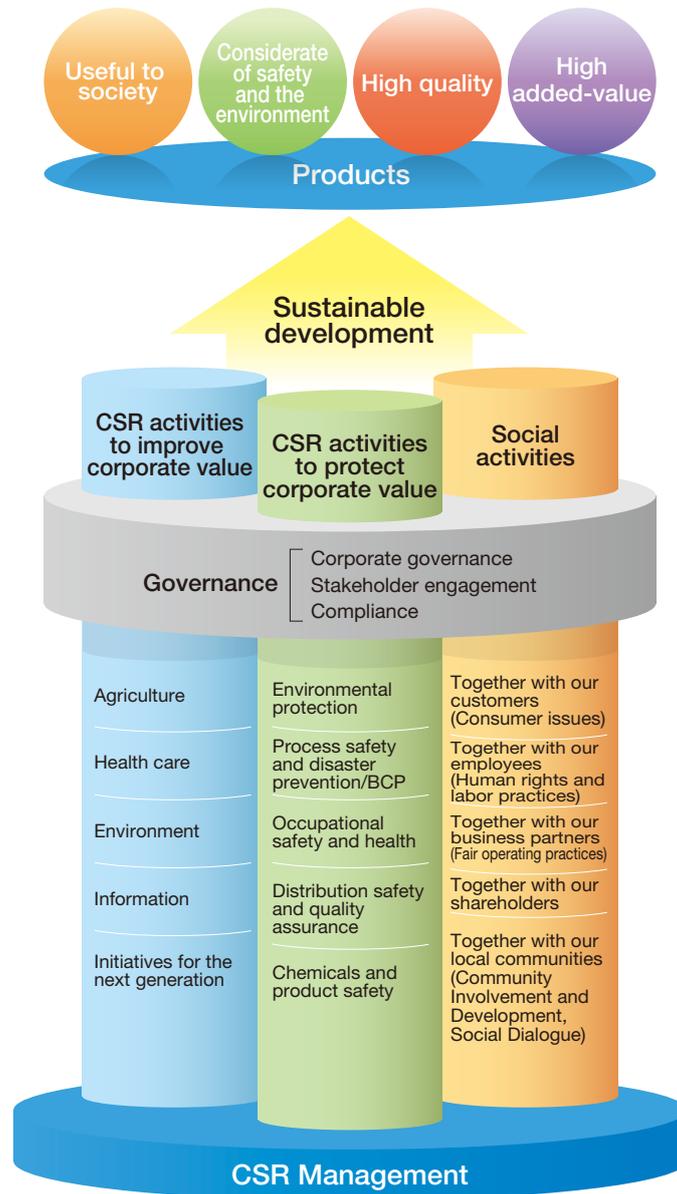
4. Governance

Corporate governance

We are advancing our CSR activities with consideration for the interests of all of our different stakeholders, including shareholders, employees, business partners and local communities. Through these efforts, the Group seeks to play a significant role in realizing sustainable development of our society. At the same time, the Nippon Soda Group is continuing its own development as sought-after chemical group that meets 21st-century social needs by consistently offering creative and unique technologies and products that will contribute to the creation of an enriching society that is able to realize the dreams of the next generation.

1. Nippon Soda's "protective" CSR activities, aiming to minimize negative impacts on society, with the primary focus on responsible care (RC) activities as a chemical company

2. Nippon Soda's "proactive" CSR activities, aiming to augment beneficial impacts on society, with the primary focus on materiality to address social issues



CSR activities to improve corporate value

Nippon Soda's "proactive" CSR activities, aiming to augment beneficial impacts on society, with a primary focus on materiality to address social issues

CSR activities to protect corporate value

Nippon Soda's "protective" CSR activities, aiming to minimize negative impacts on society, with a primary focus on responsible care (RC) activities as a chemical company

Social activities

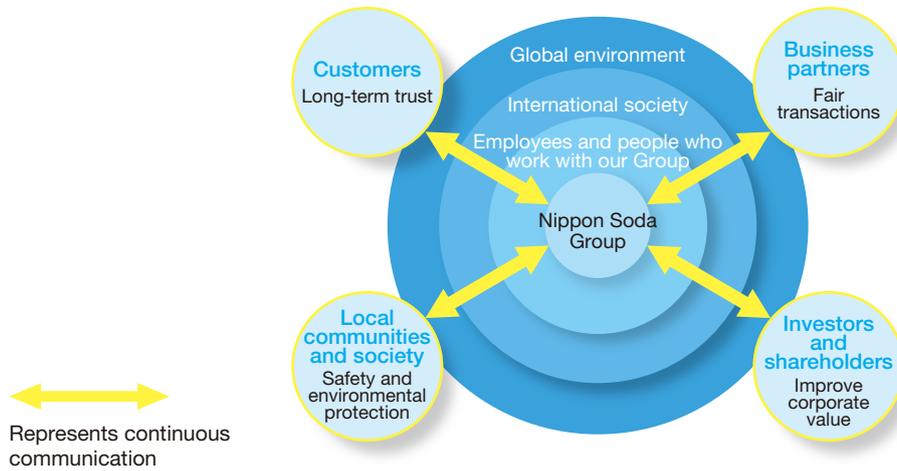
Social contribution activities

Governance

Corporate governance

Stakeholders

The management philosophy of the Nippon Soda Group states that the Group shall meet expectations of stakeholders, including shareholders, business partners, employees and local communities, and promote environmentally conscious business practices and activities. The Group will continue in the future to fulfill its social responsibilities to stakeholders.



Business and CSR of the Nippon Soda Group

Nippon Soda Group's business

(as of March 31, 2018)

Chemicals business division

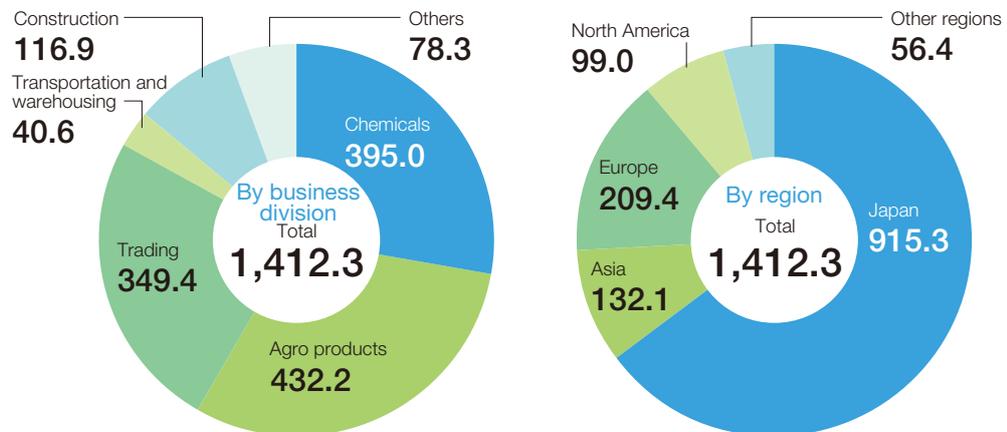
Industrial chemicals	Caustic soda, liquid chlorine, hydrochloric acid, caustic potash, potassium carbonate, soda cyanide, potassium cyanide, aluminum chloride, phosphorus oxychloride, phosphorus trichloride
Chemical products	Metallic sodium, special isocyanates, alcoholate, organotitanium, PCB detoxification treatment agents, various kinds of sulfur derivatives, color developers
Functional materials	NISSO-PB, VP-Polymer, TITA BOND, BISTRATOR
Eco-care products	NISSO HI-CHLON, Nisso Merusan, TAKE-ONE, HIDION, slime removing agents
Pharmaceuticals and pharmaceutical intermediates	NISSO-HPC, NISSO DAMN, faropenem sodium intermediates
Fungicides for industrial use	Pesticides, Biocut, Millcut

Agro products division

Fungicides	Topsin-M, Befran, Bellkute, Pythlock, Triflumizole, Pancho, Agrocare, Masterpiece, Fantasista, Ethofin, Monsieur Bordeaux
Insecticides and acaricides	Mospilan, Nissorun, Romdan, Kotetsu, Phoenix, Vermark
Herbicides	Nabu, Hoenest, Clethodim, Eigen, Conclude, Alphard
Others	Smoking agents

- **Trading** Chemicals, functional products, synthetic resins, industrial devices, construction-related products
- **Transportation and warehousing** Warehousing and transportation services
- **Construction** Plant construction, civil engineering and construction
- **Others** Non-ferrous metals business, environmental development business, etc.

Net sales (Fiscal year ended March in 2018) Unit: 100 million yen



Corporate profile

(as of March 31, 2018)

Name: Nippon Soda Co., Ltd.

Location of Head Office: Shin Ohtemachi Bldg., 2-2-1 Ohtemachi, Chiyoda-ku, Tokyo 100-8165 Tel. +81-3-3245-6054

Foundation: February 1920

Representative Director, President: Akira Ishii

Representative Director, Senior Executive Managing Officer: Hiroyuki Adachi

Stock listing: Tokyo Stock Exchange, First Section

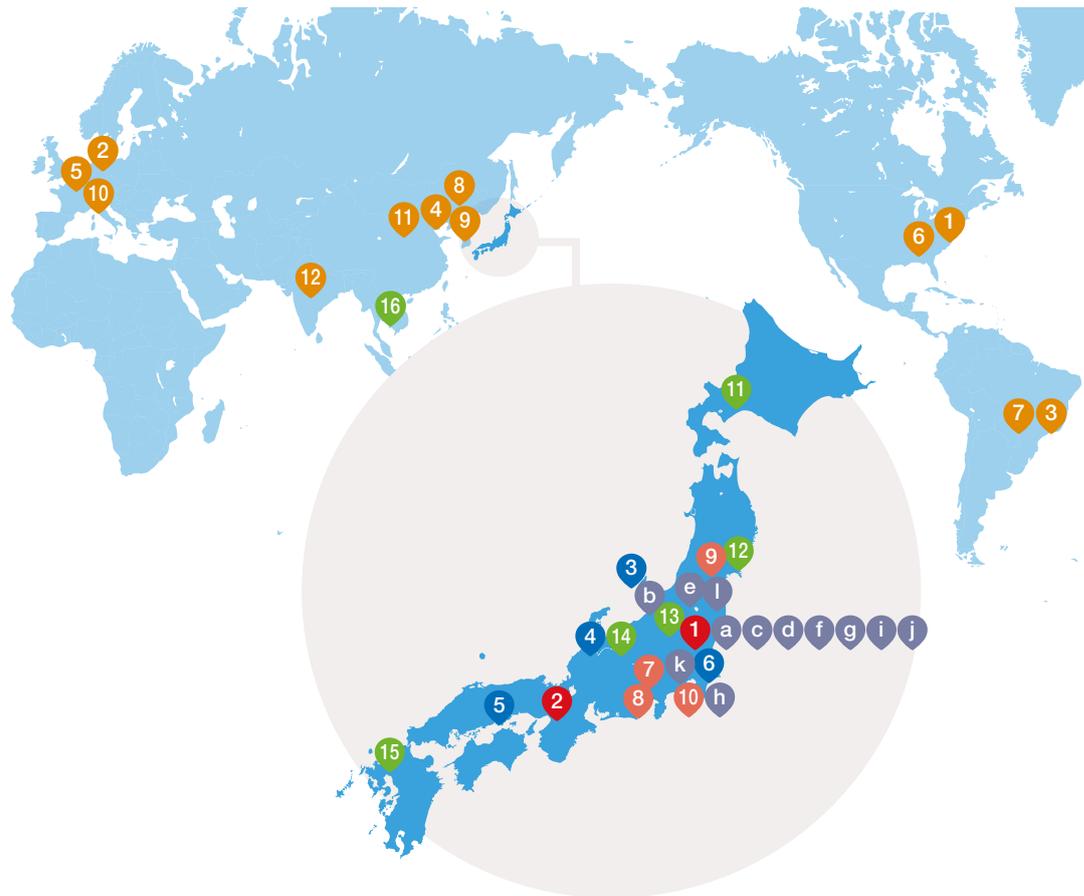
Capital: 29,166 million yen

Number of employees: 2,683 (consolidated, including contract employees)

1,288 (non-consolidated, including contract employees)

Business description: Manufacturing, processing and marketing of caustic soda, potassium products, chlorine and chlorine products, synthetic resin, dyes, pharmaceuticals and pharmaceutical intermediates, agrochemicals, and various other kinds of chemical industrial products

Brief introduction to the Nippon Soda Group (as of March 31, 2018)



Business Sites

- 1 Tokyo Head Office
- 2 Osaka Branch Office

Plants

- 3 Nihongi Plant
- 4 Takaoka Plant
- 5 Mizushima Plant
- 6 Chiba Plant

Sales Offices

- 11 Sapporo Office
- 12 Sendai Office
- 13 Kanto Office
- 14 Takaoka Office
- 15 Fukuoka Office
- 16 Bangkok Representative Office

Group Companies in Japan

Chemicals

- a Nisso Fine Co., Ltd.
- b Shinfuji Kaseiyaku Co., Ltd.
- c NISSO BASF Agro Co., Ltd.
- d Nisso Metallochemical Co., Ltd.
- e Joetsu Nisso Chemical Co., Ltd.
- f Nisso Green Co., Ltd.

Logistics

- g Sanwa Soko Co., Ltd.
- h Sanso Unyu Co., Ltd.

Trading

- i Nisso Shoji Co., Ltd.

Engineering

- j Nisso Engineering Co., Ltd.

R&D consultants

- k Nisso Chemical Analysis Service Co., Ltd.

Civil engineering and construction

- l Nisso Kensetsu Co., Ltd.

Research Centers

- 7 Odawara Research Center
- 8 Haibara Field Research Center
- 9 Bandai Field Research Station
- 10 Chiba Research Center

Overseas Group Companies

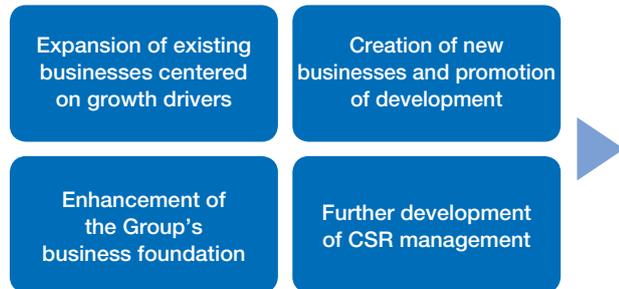
- 1 NISSO AMERICA INC.
- 2 NISSO CHEMICAL EUROPE GmbH
- 3 NISSO BRASILEIRA REPRESENTAÇÃO LTDA.
- 4 NIPPON SODA TRADING (SHANGHAI) Co., Ltd.
- 5 Certis Europe B.V.
- 6 Novus International, Inc.

- 7 Iharabras S/A. Indústrias Químicas
- 8 NISSO KOREA CO., LTD.
- 9 Nisso Namhae Agro Co., Ltd.
- 10 Alkaline SAS (Including 4 group subsidiaries)
- 11 Liling Fine Chemicals Co., Ltd.
- 12 NISSO CHEMICAL INDIA LLP

Summary of the new medium-term business plan (FY 2018 – FY 2020)

The Nippon Soda Group has established a new medium-term business plan (FY 2018 – FY 2020) setting out its new business goals. As the final stage of efforts for our long-term vision, “Chemigress to 100,” we are pushing forward with our growth strategies already deployed and advanced and are developing a strong corporate foundation toward further improving our corporate value beyond our 100th anniversary in 2020.

Basic goals of the new medium-term business plan “Increase business earning power” and “Create new businesses”



Aim for 2020

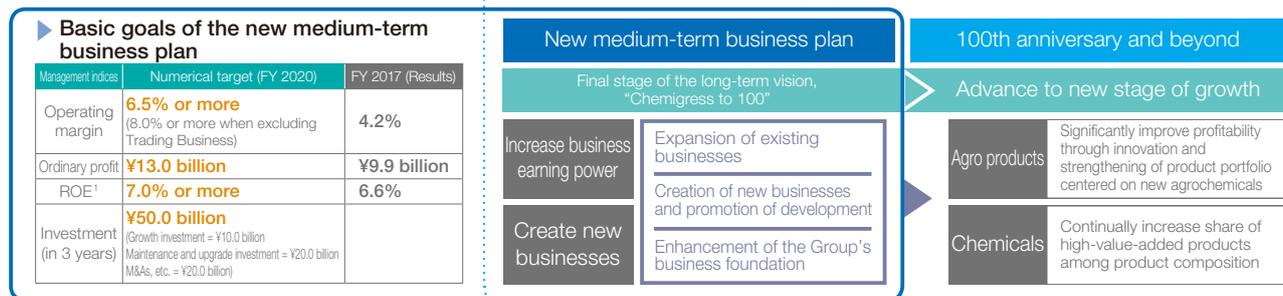
Long-term vision “Chemigress to 100” (2011–2020)

(2011–2020)

- 1 Focus mainly on areas essential for the development of a sound society, such as agriculture, medicine, the environment and information, and provide a constant stream of new safe and useful products and businesses, thereby making tremendous contributions to society.
- 2 Increase our presence and indispensability on the international stage as a chemistry-oriented business group that is conscious of the global environment and CSR.
- 3 Form a globally competitive corporate group that is highly motivated and ready to take on challenges and enhance the comprehensive value of the entire Group so as to make enormous progress.

Snapshot of the Nippon Soda Group to the 100th anniversary and beyond

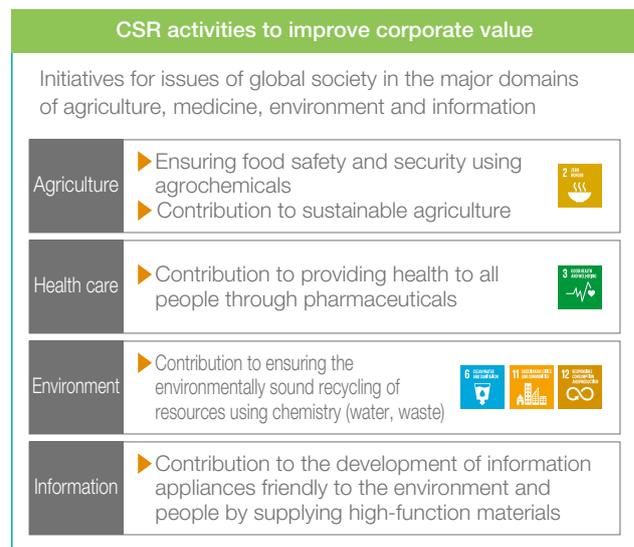
The Group envisions advancing to a new stage of growth by reinforcing the business foundation under the new medium-term business plan period.



1. Each department will improve ROIC (return on invested capital) by continually improving profitability and efficiency, thereby improving ROE (return on equity) of the entire Group.

Further development of CSR management

Balanced implementation of “CSR activities to protect corporate value” and “CSR activities to improve corporate value”

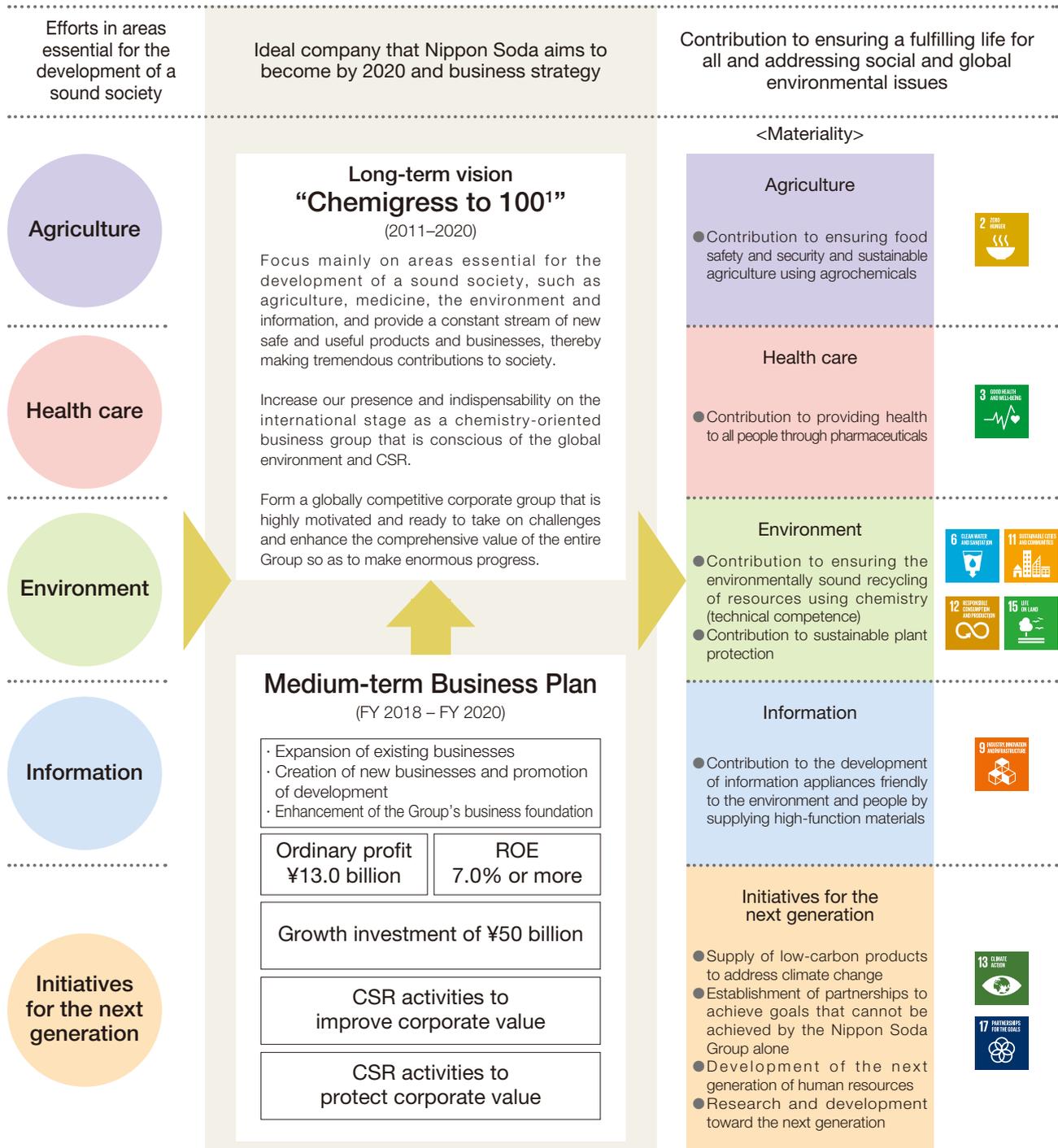


Further develop our CSR management in order to promote our sound development as a sought-after chemical group

Value Creation of the Nippon Soda Group

Value creation of the Nippon Soda Group

As a chemical manufacturer developing and supplying safe, useful and environmentally friendly products, we continue to contribute to the development of a sustainable society by cultivating harmonious relationships with all of our stakeholders, including shareholders, employees, business partners and members of our local communities, and by providing society with new value.



1. "Chemigress" in "Chemigress to 100" was coined by combining the words "chemical" and "progress." "Chemigress to 100" conveys our determination to contribute to creating a sound society through the chemistry-oriented business of our group toward the 100th anniversary.

Business and SDGs of the Nippon Soda Group

From September 25 to 27, 2015, during a milestone year for the United Nation's development agendas, the United Nations Sustainable Development Summit was held at the UN headquarters in New York. The summit was attended by more than 150 heads of state of member nations and resulted in the adoption of the official document, Transforming our World: The 2030 Agenda for Sustainable Development. This agenda includes declarations and goals, stated as action plans for the prosperity of people and the Earth. The newly established goals, which succeed the Millennium Development Goals (MDGs), are called Sustainable Development Goals (SDGs) and are comprised of 17 goals and 169 targets.

As part of our efforts to conduct "CSR activities to improve the corporate value," the Nippon Soda Group states in its basic CSR policy that the company will make contributions through its business toward resolving social issues so as to help achieve the development of a sustainable society. In line with the CSR policy, the Nippon Soda Group is addressing efforts to meet the Sustainable Development Goals (SDGs) that allow us to make such contributions through our products. One company cannot tackle all of the SDGs alone, but if many different companies throughout the world do what they can toward resolving these issues, we believe that the combined efforts will result in the realization of a sustainable society.



The Nippon Soda Group's CSR and materiality

Materiality identification

The Nippon Soda Group focuses its business mainly on the domains of agriculture, medicine, the environment and information, which are essential for the sound development of society, and contributes to society's development by providing a constant and stable stream of new useful products and businesses. For the purpose of conducting business that is useful for developing a sustainable society, we have identified the four aforementioned domains (agriculture, medicine, the environment and information) as medium- and long-term areas of materiality for CSR activities to improve the corporate value. We have also identified materiality issues and KPIs in the four CSR domains that are defined in the CSR basic policy.

	Domain	Materiality		KPI
CSR activities to improve corporate value	Agriculture	Contribution to ensuring food safety and security and sustainable agriculture using agrochemicals (1) Increase in food and feed production (2) Diversification of crop protection (3) Improvement of user safety (safety of chemicals and products) ¹	  p.11 	(1) Seminar hosting situation (2) Situation of initiatives (3) Situation of transition to granular formula
	Health care	Contribution to providing health to all people through pharmaceuticals (1) Easy-to-swallow, effective medicines through NISSO-HPC	  p.12 	(1) Situation of contributions
	Environment	Contribution to ensuring the environmentally sound recycling of resources using chemistry (technical competence) (1) Steady supply of water resources (2) Reduction of environmental impacts caused by waste Contribution to sustainable plant protection (1) Protection of precious trees such as pines from harmful insects	     p.13 	(1) The amount of supplied water (2) Situation of contribution (1) Situation of contribution
	Information	Contribution to the development of information appliances friendly to the environment and people by supplying high-function materials (1) Supply of high-function materials friendly to the environment and people	  p.14 	(1) Number of portable communication terminals using our products
	Initiatives for the next generation	Contribution to addressing climate change by supplying low-carbon products (1) Contribution to achieving a low-carbon society by supplying low-carbon products Achievement of goals that cannot be achieved by Nippon Soda Group alone through partnership (1) Sharing of the principle of goals and cooperation with other companies and organizations Development of the next generation of human resources (1) An educational system to maintain safety standards in the future Research and development toward the next generation (1) Research and development that enable the continuing development of human society and the global environment as well as lead to business	 	(1) Change in the number of low-carbon products Situation of progress Situation of contribution (1) Situation of progress (1) Results of education (1) Situation of research
CSR activities to protect corporate value	Environmental protection	(1) Environmental abnormalities	 p.15 	(1) Number of legal violations
		(2) Energy i. Energy use per unit of production ii. Energy use per unit of transport		(2) Amount of consumption i. Per unit of production ii. Per unit of transport
		(3) Reduction in greenhouse gas emissions		(3) Amount of emissions
		(4) Waste i. Amount of final disposal as landfill ii. Zero emissions		i. Amount of waste to landfill ii. Zero emissions ratio
		(5) Emissions of harmful substances into the atmosphere		(5) Amount of emissions
		(6) Reduction of impact on biodiversity and ecosystems		(6) Situation of initiatives
Process safety and disaster prevention/BCP	(1) Major accidents at facilities	 p.16 	(1) Number of accidents	
	(2) Maintenance and improvement of a business continuity plan (BCP)		(2) Situation of BCP improvement	
Occupational safety and health	(1) Occupational accidents An absence from work/no absence	 p.17 	(1) Number of occupational accidents	
	(2) Health promotion		(2) Number of incidence of personal injury and illness	
Distribution safety and quality assurance	(1) Distribution-related complaints	 p.18 	(1) Number of distribution-related complaints	
	(2) Product-related complaints		(2) Number of product-related complaints	
Chemicals and product safety	(1) Compliance with chemical-related laws and regulations	 p.19 	(1) Situation of management, situation of education	
Social activities	Together with our customers (Consumer issues)	(1) Consumer issues	 p.20 	(1) Level of understanding of issues
	Together with our employees (Human rights and labor practices)	(1) Acceptance of diversity (2) Creation of a rewarding workplace that employees can be proud of	 p.21 	(1) Quantitative value on diversity (2) Results of survey on employee satisfaction with their workplace
	Together with our business partners (Fair operating practices)	(1) Business partners	 p.22 	(1) Situation on compliance with code of conduct
	Together with our shareholders	(1) Shareholders	 p.23 	(1) Situation of dialogues
	Together with our local communities (Community involvement and development, Social dialogue)	(1) Local gatherings, community involvement (2) Legal and other requirements (3) Creation of more opportunities for stakeholder engagement	 p.24 	(1) Number of dialogues and involvements and details (2) Situation of deviation (3) Number of engagements and details
Governance	Corporate governance	(1) System	 p.25 	(1) Governance structure
	Compliance	(1) Legal compliance	 p.26 	(1) Violations of laws and regulations

1. Including efforts related to chemicals and product safety among “CSR activities to protect corporate value”

Materiality Identification Process

Step 1 Identification and prioritization

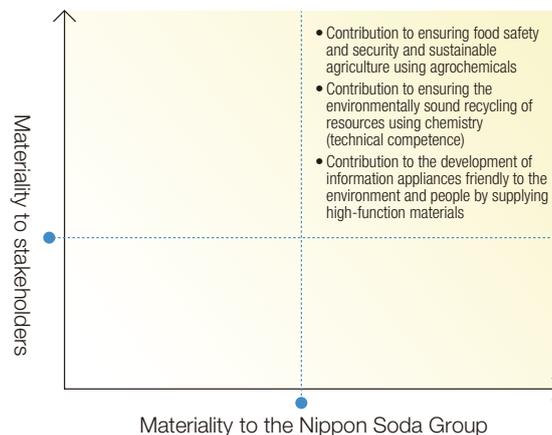
- 1 The material issue for the Nippon Soda Group in its CSR activities to protect the corporate value was defined as continuous efforts to minimize impacts on people and the environment, with a recognition that, as a chemical manufacturer, we deal with a wide variety of chemicals.
- 2 Material issues for the Nippon Soda Group in its CSR activities to improve the corporate value were identified in line with the GRI G4 guidelines, the ISO 26000 guidelines and SDGs. The materiality assessment in the prioritization step was conducted using a two-dimensional plane with the materiality to stakeholders and the materiality to the Nippon Soda Group as the vertical and horizontal axes, respectively. Issues ranked high both on the vertical and horizontal axes were assessed as high priority.
- 3 Reference standards for prioritization

Materiality to stakeholders

- International frameworks, such as the GRI G4 guidelines
- The 2030 Agenda for Sustainable Development, Sustainable Development Goals Fact Sheet, SDGs
- Third-party opinions

Materiality to the Nippon Soda Group

- Management philosophy
- Conformity with Nippon Soda's medium- and long-term business plan
- Opportunities and risks in order to ensure continuous development



Step 2 Validation and identification through expert dialogue

- 1 We held a dialogue with experts to determine if there were any discrepancies between the materiality issues we identified and those that we should consider and recognize in the domains of agriculture, health care¹, the environment and information. (December 8, 2015) ▶ For details, please refer to the CSR Report 2016 on pages 13 and 14.

1. For the health care domain, materiality issues were identified in 2017. (December 9, 2016) ▶ For details, please refer to the CSR Report 2017 on pages 25 through 28.

(December 8, 2017) ▶ For details, please refer to the CSR Report 2018 on page 10 and its online version.

> [Stakeholder dialogue](#) 

Major opinions (What should be considered, their expectations, etc.)

- Each company has its own approach to materiality analysis, some start with social issues and some with their medium-term/long-term vision.
 - Many companies select KPIs in the next step.
 - I think you should expand the scope of issues to be addressed in the areas of the environment and information to make it as wide as the scope of issues associated with agrochemicals.
 - I was convinced that Nippon Soda is sincerely addressing this issue.
- 2 After the dialogue, we made corrections based on participants' opinions and identified material issues that the Nippon Soda Group should address, which have been approved by experts.

Step 3 Reporting to and approval from the Nippon Soda Group's executives

November 20, 2015 A report of the experts dialogue in Step 2 was provided to the Corporate Social Responsibility Administration Meeting.
February 2016 Approval was obtained from the Management Council and the Board of Directors.
May 2016 A report was provided to the Corporate Social Responsibility Administration Meeting.

Step 4 Implementation of PDCA

- Plan** ▶ Plan theme-specific materiality workshops (discussion on developing KPIs: at the beginning of FY 2017)
- Do** ▶ Organize workshops (FY 2017 first half); Develop KPIs (FY 2017 second half)
- Check** ▶ Assess KPIs (at the end of FY 2017) and publish assessment results (at the beginning of FY 2018)
- Act** ▶ Review (conducted annually since December 2016)

Stakeholder Dialogue 2017

We held a dialogue with experts from outside the Nippon Soda Group on the theme of “CSR activities to improve corporate value,” which aim to increase the positive effect on society, for the purpose of discussing materiality for a chemical company that creates innovative products useful to achieve a sustainable society.



Naomi Yamazaki

Representative Director
ESG Network of Shareholders & Companies
Administration Manager
Institutional Investors Collective Engagement Forum



Masahito Ikeda
Nippon Soda



Atsuo Omi
Nippon Soda



Masahiro Arichika
Nippon Soda



Takayuki Okamoto
Nippon Soda



Masao Seki

Specially Appointed Professor
(since April 2018)
At School of Business Administration Meiji University
Senior Advisor on CSR at Sampo Japan Nipponkoa Insurance Inc.

Participants

<Experts from outside the Nippon Soda Group>

Masao Seki

Specially Appointed Professor at School of Business Administration, Meiji University
Senior Advisor on CSR at Sampo Japan Nipponkoa Insurance Inc.

Naomi Yamazaki

Representative Director, ESG Network of Shareholders & Companies
Administration Manager Institutional Investors Collective Engagement Forum

<Nippon Soda>

Masahito Ikeda, Corporate Social Responsibility Department

Takayuki Okamoto, Agro Products Division

Atsuo Omi, Chemicals Business Division

Masahiro Arichika, Corporate Communications Section, General Affairs & Personnel Department

Notes:

1. The position and job titles of the participants are those effective as of December 2017.
2. Titles omitted in the text

Improving CSR activities through opportunities for communication

In the stakeholder dialogue held last fiscal year, we sought advice from the perspective of how to incorporate and connect social issues that are associated with “the Nippon Soda’s CSR activities to improve corporate value” with our business in three domains: agriculture, the environment and information. Based on the opinions gathered, which have been shared among all departments, we are having productive discussions to find clues for the development of new business projects.

We have started in fiscal 2019 to identify materiality issues in the health care domain. We have also expanded the Nippon Soda Group’s activity domains that aim to contribute to society through products from three to four domains, as well as increased the number of Sustainable Development Goals (SDGs) we should aim to achieve from four in the last year to nine in fiscal 2019.

The objective of the dialogue with experts held in fiscal 2018 was to promote engagement to help the PDCA cycle of CSR activities to “spiral up.”

Efforts to address materiality issues in the four domains

Nippon Soda: In the **agriculture domain**, with the aim of contributing to sustainable agriculture, we take two opposite approaches in our research and development of biopesticides: inside-out and outside-in. We are also developing new agents that enable effective agricultural production without being affected by climate conditions. Our efforts include research on plant growth regulators designed to increase high-temperature tolerance and desiccation tolerance.

In the **health care domain**, we have identified a new materiality issue associated with NISSO-HPC for fiscal 2019, which aims to provide medicines that are easier for patients to take. NISSO-HPC, which is used in about 57% of drug products in Japan, is effective in reducing tablet sizes and maintaining the efficacy of drugs over long hours. By reducing the burden on patients of all ages, from children to the elderly, related to taking a drug, we hope to contribute to achieving a society where people can enjoy health and wellbeing.

In the **environment domain**, in November 2017, we completed acquisition of a plant health business from Zoetis Japan, including Green Guard, an agent for preventing pine tree withering. After assessing the effects of Green Guard, which is designed to be injected into pine trunks, we have concluded that it can help reduce environmental impacts. Based on this result, we have added contribution to greening/landscape preservation as a new materiality issue.

In last year's dialogue, it was suggested that it might be possible to expand the scope of application of Nippon Soda's technology for toilets for disaster use. In response, we are developing a toilet for those who need long-term care. In order to cope with the aging population, we are aiming to launch this product into the market in the near future.

In the **information domain**, as an environmentally conscious chemical manufacturer with its own accumulated manufacturing technologies, we comply with the Industrial Safety and Health Act and other laws and regulations. We also perform the necessary registrations required under the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Furthermore, we are discussing how to create products that contribute to resolving social issues in an age where we are expected to take quick action to cope with the future innovation of digital devices and to meet increasingly diversified user needs.

In last year's dialogue, the relationship between chemical materials and universal design was also pointed out. With a focus on how to communicate the relationship between chemical materials and universal design to children, the next generation, we would like to consider incorporating children's opinions into the development of solutions in the future.

Seki: The Charter of Corporate Behavior of Keidanren (the Japan Business Federation) was revised in November 2017. In the revision, emphasis was placed on the concept of "Society 5.0 for SDGs," which aims to contribute to achieving SDGs by creating a human-centered super smart society. The major focus of the revision is to encourage Japanese industry to provide as many solutions as possible. In this regard as well, addressing any of the materiality issues you have identified is a promising step toward the future. I encourage you to continue your efforts.

You seem to be too reserved in terms of your ambitions for achieving SDGs. If there is a goal you have failed to achieve, you should at least express your intention to achieve it by 2030, instead of giving up and excluding it from the list of future goals. I think you should be more positive, even if it seems like a pipe dream.

Another point I would like to make is about transformation unique to a chemical company. You should communicate to young people about how the power of chemistry can play a part in drastically changing people's lifestyles, making our society function much more efficiently, or producing terminals that are easy for anybody to use.



Materiality with an eye toward medium- and long-term growth

Nippon Soda: People have increasing expectations for chemical companies to provide functions in addition to products. Our priority is on meeting our customers' needs. At the same time, we have recently come to the conclusion that it is difficult to create something new unless we understand the thoughts and needs not only of customers but also of users.

In this context, we have started, for the first time, displaying our products, such as Hi-chlon and a urinary calculus removal agent for toilets, at exhibitions of athletic gyms. Through direct communications with users of our products on such occasions, we have received many comments that make us aware of new perspectives. For example, some visitors to such exhibitions told us that Hi-chlon alone is sometimes not convenient to use. In response, we developed an automated disinfection system using Hi-chlon, which enables people to use the agent easily without touching it with their hands.

In the process of achieving medium- and long-term business growth, it is essential to develop products that can lead to new business opportunities. We are sure that we can provide products that better meet the expectations of the public by making comprehensive proposals based on our own technology and manufacturing capabilities to cope with issues raised by customers and social demands.

Yamazaki: It goes without saying that the Nippon Soda Group's "CSR activities to improve the corporate value" constitute materiality with an eye toward medium- and long-term growth, which cannot be achieved without the commitment of management. "CSR activities to protect the corporate value" and "social activities" are within the framework incorporating responsible care and ISO 26000. I think you may still need to sort out the priority issues of these activities in a more organized manner. I recommend that you identify possible downside risks associated with these activities in the process of pursuing medium- and long-term business growth.

I think "initiatives for the next generation" is a very important theme. I recommend that you also identify impacts of employee satisfaction (ES)-related issues, which can affect safety and human resources, on medium- and long-term business growth from the perspective of non-financial information. I believe this will help you identify issues that you should address in the future.

I suggest that you plan the path of your company's growth over a long span of 10, 20 and 30 years, which I'm sure will help you develop a background story about how to create the Nippon Soda Group's value. In that process, I recommend that you assess materiality in terms of CSR activities that will help create business opportunities and support medium- and long-term growth to protect the company, while taking into account the increasing expectations of society for sustainable development.

Seki: I fully agree with what Mr. Yamazaki has said. For example, climate-related information has been categorized as non-financial information but, recently, I think such information surely has come to be regarded as financial information. According to the TCFD's¹ report, in the process of significant changes in regulations and markets through the long-term transition toward a low-carbon society, companies are required to disclose future-oriented information, including their business strategy to respond to such changes. The TCFD recommends that companies perform scenario analysis to assess climate-related risks and opportunities. It will become important to disclose information on such risks and opportunities from a long-term perspective.

I don't think that the SDGs contain no element of social contribution at all; but I think they rather offer huge business opportunities. In other words, if there are unmet needs and if a company can provide business solutions to fulfill them, this will be a business opportunity.

With regard to the classification of materiality, the main social risk and opportunity lie in human rights. From this perspective, I think that consumer issues, human rights and labor issues for employees, and fair operating practices, which were classified as materiality issues under "social activities," should be included under the category of "CSR activities to protect the corporate value." Companies are now expected to have proactive dialogues with the public. In response to this trend, I strongly recommend that you assess human rights risks across the value chain and also re-categorize materiality issues in "social activities."

1. Task Force on Climate-related Financial Disclosures



Improvement in CSR activities that leads to sustainable development

Nippon Soda: The dialogue helped us realize that there are different approaches, for example, to social contribution and ESG investment. In this and other respects as well, the dialogue provided us with an opportunity to reconsider our products from new perspectives and in light of new concepts.

With regard to SDGs, after the dialogue, we started a new discussion related to Goal 17 (Strengthen the means of implementation and revitalize the global partnership for sustainable development) of the SDGs. We have offices in Bangkok and India and an affiliated company in Brazil, which are engaged in agriculture-related business. We are currently discussing with personnel in charge at other departments the possibility of partnerships with local companies and industrial organizations as well as what solutions are possible through collaboration with them. We believe these efforts at a local level can lead to activities that help improve the medium- and long-term corporate value of the Nippon Soda Group.

Yamazaki: In the dialogue, I had the impression that you have been implementing CSR activities in a meticulous and well-organized manner. I applaud your efforts as excellent. In the future, I would like to focus my attention on the process

whereby each effort will be more deeply integrated with the medium- and long-term strategies.

All companies seem to have difficulty involving individual employees and translating theory into practice. Since efforts to get employees involved and put theory into practice are very important, I hope you will make untiring efforts to further improve relevant activities.

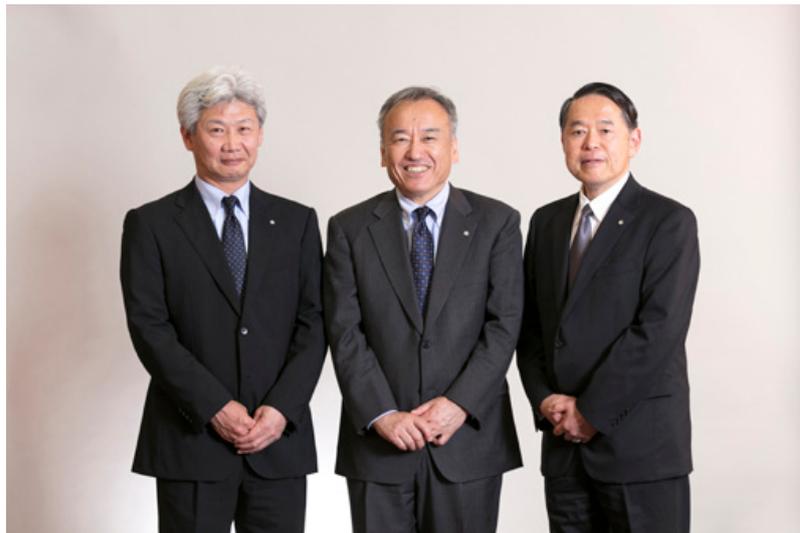
Seki: One year has passed since the last dialogue. I appreciate your sincere efforts in the last 12 months. I got the sense that the overall concept behind your CSR activities has been much better organized than the last year. I also think that the PDCA cycle has been implemented in a well-harmonized manner to step up and improve your activities.

In particular, with regard to “CSR activities to improve the corporate value,” progress was made in discussions and efforts. Because your company aims to achieve CSR management that helps build a sustainable society, you should always pay careful attention to ensure that all the necessary elements to achieve this goal are there. Please keep this in mind at every step of the way in CSR management.

CSR Management

Message from CSR officers

We hope to celebrate the 100th anniversary in 2020 as a chemical group company sought after by society as a result of the achievement of CSR-oriented business management and balanced implementation of CSR activities to protect corporate value and CSR activities to improve corporate value. Our goal is to become a company that all employees can enjoy working at and a global corporate group that values diversity. We are committed to promoting CSR activities with an emphasis on transparency and accountability.



Kiyotaka Machii

Executive Officer
General Manager of
the General Affairs &
Personnel Department

Noriyuki Haketa

Director and Senior
Executive Managing
Officer
Supervision of the
Corporate Social
Responsibility
Department

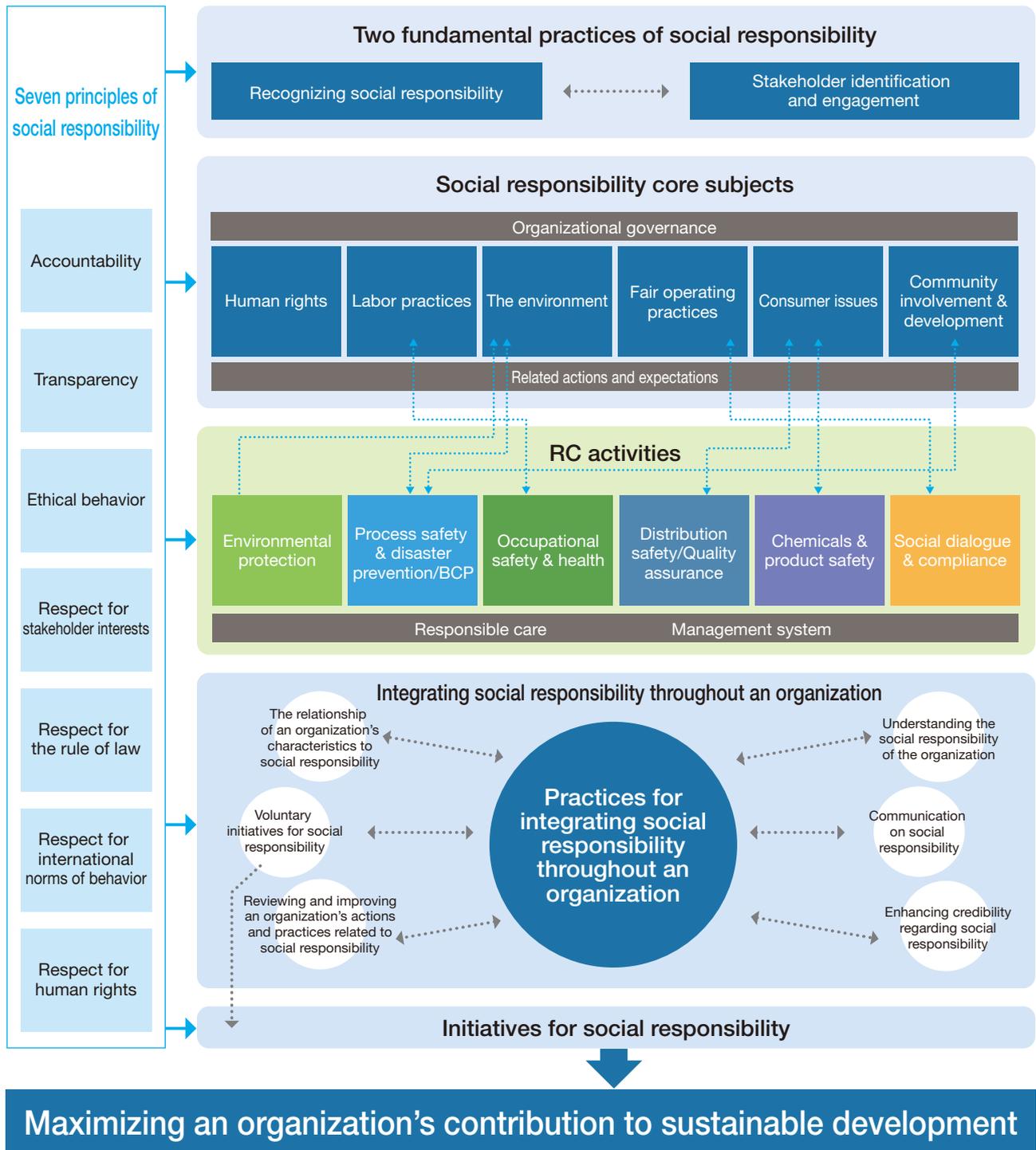
Masahito Ikeda, Ph.D.

Executive Officer
General Manager of
the Corporate Social
Responsibility
Department

CSR activities

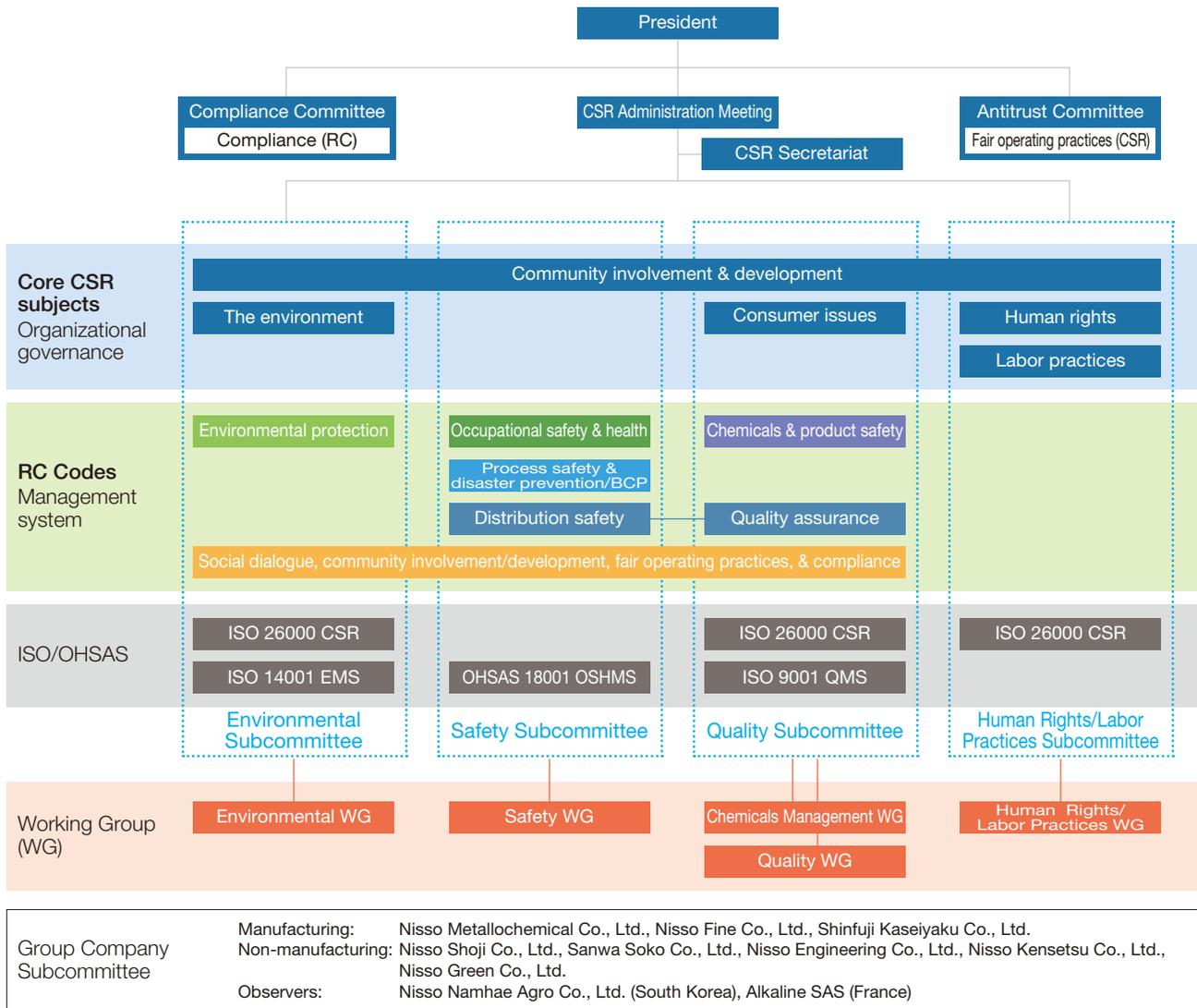
The CSR activities of the Nippon Soda Group include all of the responsible care (RC) codes (activity items). All CSR activity items are based on the seven principles of social responsibility described in the ISO 26000 standard and responsible care is based on the concepts of “doing what is ethically right” and “implementing proactive measures to reduce risks.” The seven RC Codes (activity items) and the seven core subjects (activity items) of CSR are closely related to each other. The Nippon Soda Group integrates these activity items and determines the eight policies.

Relationship between CSR (ISO 26000) and RC



CSR promotion system

Chaired by the President, the CSR Administration Meeting serves as a company-wide decision-making body to promote CSR activities, including RC. It sets annual targets to help the PDCA cycle “spiral up” and provides a management-level review of CSR activities. Held twice a year, the CSR Administration Meeting is attended by directors, executive officers and worksite managers.

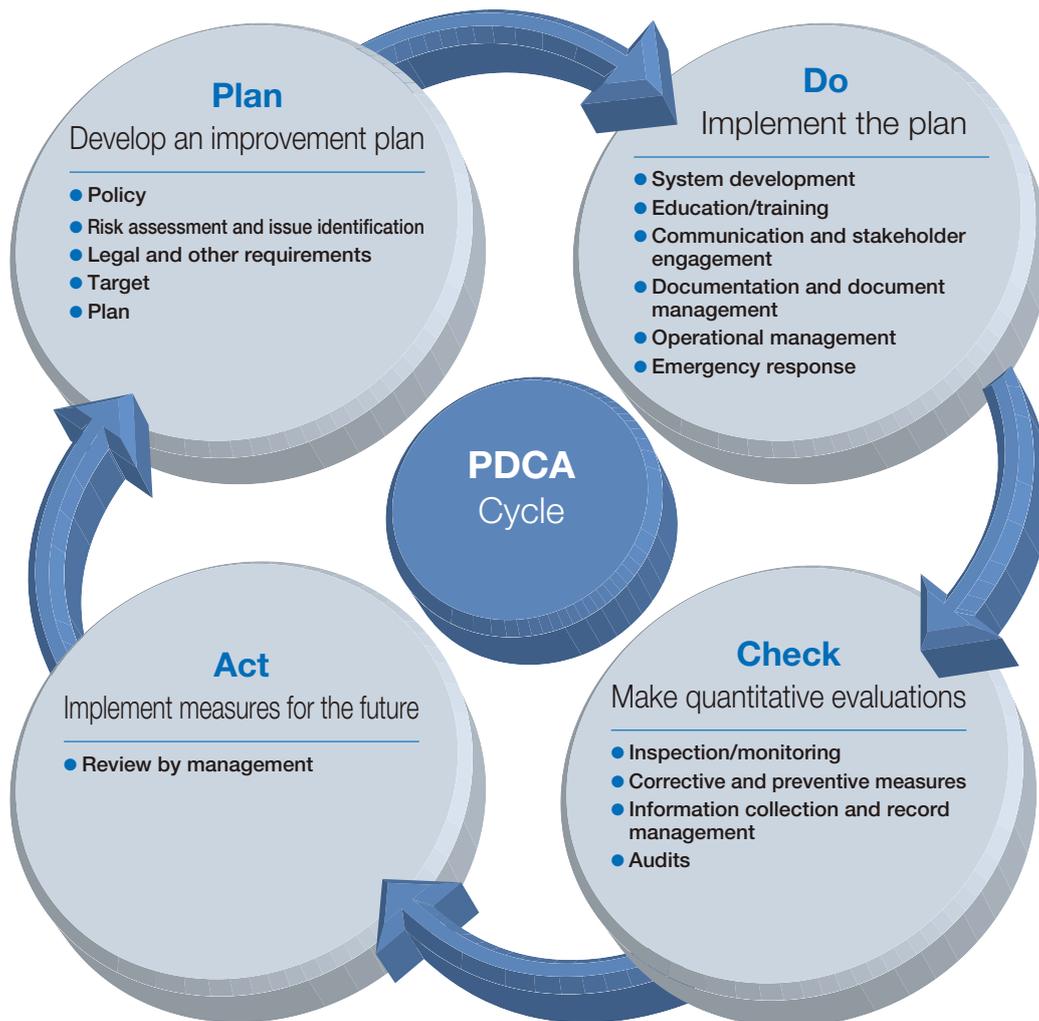


CSR management system

The management system that promotes the CSR activities of the Nippon Soda Group is designed to “spiral up” the PDCA cycle. Each worksite is required to develop a CSR improvement plan (Plan), implement the developed plan (Do), make quantitative evaluations of both the plan and its implementation (Check), and implement measures based on quantitative evaluation results (Act) in order to ensure continuous improvement.

We also conduct a Group-wide audit to assess the appropriateness of activities.

We recommend that the PDCA cycle for CSR activities to protect corporate value be completed in one year by design. The CSR Promotion Subcommittee holds a meeting to review the progress of the PDCA cycle twice a year, in May and November. The progress is also reviewed by management in February and August every year at Corporate Social Responsibility Administration Meetings.



CSR audit

Internal audit

We collectively refer to internal audits, such as QMS, EMS and OSHMS, that are conducted at each site of Nippon Soda as the “CSR audit.” To investigate and verify whether the CSR audit is conducted appropriately, whether the level of audit quality is appropriate, and other relevant issues, a representative from each site and staff in charge at the Head Office convene once a year to hold a CSR Audit, Verification and Review Meeting. Internal audits independently performed by Nippon Soda’s worksites (plants and research centers) are referred to as the CSR audit and the results of internal audits are reviewed at each worksite’s Corporate Social Responsibility Administration Meeting.

Periodic CSR audit

Nippon Soda’s audit team conducts regular (biennial) audits of CSR practices at Group companies.

External audit

All worksites (plants and research centers) and manufacturing group companies undergo external reviews according to ISO 14001, ISO 9001 and OHSAS 18001 and diagnosis of disaster prevention capability with emphasis on disaster prevention and occupational safety by an institute specializing in disaster prevention. Based on their results, ongoing improvement efforts are made.

We are always ready to receive audits by customers, who are our stakeholders, and make improvements in response to their feedback. We also undergo other external audits on an as-needed basis.

Special audits

A special audit is conducted, as needed, in the event of a serious non-conformity or other serious problem under an audit system that can accommodate the situation.

Audits and reviews conducted

Audits and reviews carried out at the Nippon Soda Group for fiscal 2018 (number of times)

Sites	Internal	External	
		Received	Conducted
Head Office	4	1	60
Nihongi Plant	8	34	9
Takaoka Plant	38	9	4
Mizushima Plant	2	3	2
Chiba Plant	10	27	17
Odawara Research Center	2	4	1
Chiba Research Center	14	3	0
Domestic manufacturing group companies (3)	25	69	1
Total	103	150	94

CSR activity policy goals for FY 2019 (within the ISO 26000 Framework)

1 Management system and organizational governance

In order to carry out sound and transparent corporate activities in compliance with laws and regulations, we will continuously implement the PDCA cycle of goal setting, improvement and periodic reviews based on RC Codes and RC ethics.

We will conduct business activities in accordance with the seven principles of social responsibility in CSR: accountability, transparency, ethical behavior, respect for stakeholder interests, respect for the rule of law, respect for international norms of behavior, and respect for human rights. We will also conduct CSR and RC activities in our overseas operations.

2 Environmental protection

We will make efforts to save energy and resources, reduce and recycle waste, and reduce emissions of harmful substances, with the goal of minimizing the environmental impact of our business activities.

3 Process safety and disaster prevention/BCP

We will prevent major accidents at our facilities and promote safe and stable production. We will establish a business continuity plan (BCP) and drive continuous improvement.

4 Occupational safety and health

We will create an accident-free working environment in order to provide a healthy and happy working experience.

5 Distribution safety, quality assurance and consumer issues

We will prevent distribution accidents by minimizing hazards, harm and risks of in-transit accidents associated with the transportation and distribution of our products. We will increase customer satisfaction.

6 Chemicals and product safety

We will increase the confidence and trust of customers and the general public in us by taking into account possible hazards and harm that chemicals and products may have with regard to safety, health and the environment, and we will comply with domestic laws and regulations, international standards, treaties and the like, as well as other regulations that are publicly demanded.

7 Social dialogue, community involvement and development, fair operating practices, and compliance

We will make efforts to improve the general public's confidence in us by participating in various environmental protection and safety activities and proactively engaging in dialogue with stakeholders regarding the effects of chemical substances on safety, health and the environment. We will comply with legal requirements to improve transparency.

8 Human rights and labor practices

We will respect human rights and act in recognition of both their importance and their universality. We will act based on the understanding that socially responsible labor practices are indispensable to social justice and peace, respect for the rule of law, and a fair society.

New medium-term CSR activity goals (FY 2017–2020)

CSR Activity Goals of Nippon Soda Group (New Medium-Term CSR Activity Goals for FY 2017–2020)

1. Management system^{RC} and organizational governance^{CSR}

- | | | |
|--|-----------|--|
| | Goal | Proper implementation |
| | (Actions) | Continuous improvement using the PDCA cycle;
Increased efforts in implementing measures to prevent problems caused by human error |

2. Environmental protection^{RC/CSR}

- | | | |
|---|-----------|--|
| (1) Environmental abnormalities | Goal | Zero events |
| | (Actions) | Implementation of measures for reducing risks by evaluating environmental impacts;
Planning and implementation of measures to prevent problems caused by human error |
| (2) Energy | | |
| 1) Energy use per unit of production | Goal | Annual improvement of 1% and 4% improvement by the end of the new medium-term CSR plan |
| | (Actions) | With an eye to meeting the energy-saving target, focusing efforts to ensure the improvement in the per-unit energy use through the setting, implementation and evaluation of themes for improvement |
| 2) Energy use per unit of transport | Goal | Annual improvement of 1% and 4% improvement by the end of the new medium-term CSR plan |
| | (Actions) | With an eye to meeting the target for saving energy use for transport, focusing efforts to ensure the improvement of the per-unit energy use through the setting, implementation and evaluation of themes for improvement |
| (3) Reduction of greenhouse gas emissions | Goal | Annual reduction of 1% in CO ₂ emissions and 4% reduction by the end of the new medium-term CSR plan |
| | (Actions) | Complete elimination of fluorocarbon release from equipment using fluorocarbons
Implementation of improvement measures linked to energy-saving activities for the achievement of the goals, and regular inspection/maintenance of equipment using fluorocarbons |
| (4) Waste | | |
| 1) Amount of final disposal at landfills | Goal | Annual reduction of 3% in the amount of final disposal at landfills and 12% reduction by the end of the new medium-term CSR plan |
| | (Actions) | With an eye to meeting the reduction target, focusing efforts to ensure the improvement in the per-unit waste generation through the setting, implementation and evaluation of themes for improvement |
| 2) Zero emissions | Goal | Continuation of zero emissions |
| | (Actions) | Continuation of zero emissions at all worksites through reductions in the amount of final disposal at landfills and the amount transported |
| (5) Emissions of harmful substances to the atmosphere | Goal | Annual reduction of 12.5% from FY 2015 and 50% reduction by the end of the new medium-term CSR plan |
| | (Actions) | Planning and implementation of measures to reduce emissions of harmful substances |
| (6) Reduction of impacts upon biodiversity and ecosystems | Goal | Planning and implementation of activities aiming to reduce impacts upon biodiversity and ecosystems |
| | (Actions) | Contributing to the preservation of biodiversity by reducing environmental impact through environmental preservation activities;
Promoting communication with related parties and striving to collaborate and cooperate to enhance biodiversity |

3. Process safety and disaster prevention^{RC/BCP}

- | | | |
|---|-----------|---|
| (1) Major accidents at facilities | Goal | No accidents |
| | (Actions) | Achieving zero major accidents at facilities; Reducing risks of major accidents at facilities in accordance with the BCP |
| (2) Maintenance and improvement of the business continuity plan (BCP) | Goal | Maintenance and improvement of the BCP using the PDCA cycle |
| | (Actions) | Improving the emergency operation center and implementing regular emergency drills to ensure preparedness for Tokyo metropolitan and sequential earthquakes |

4. Occupational safety and health^{RC}

- | | | |
|--|-----------|---|
| (1) Occupational accidents resulting in an absence from work or no absence | Goal | No accidents |
| | (Actions) | Reduction of risks through risk assessments; Increased efforts for preventing human error; Activation of safety initiatives (KY, pointing and vocalizing, mutually directing attention, identifying "hiyari-hat" (near miss) accidents, 5Ss, improvement activities, campaigns, etc.) |
| (2) Health promotion | Goal | 5% reduction in the total number of absentee days including mental-health-related absence and 5% reduction in the number of incidents of personal injury or illness (averages for FY 2013–2015) |
| | (Actions) | Follow-up of periodic medical examination results; Mental health checks and their follow-ups; Health education |

5. Distribution safety^{RC}, quality assurance and consumer issues^{CSR}

- | | | |
|-------------------------------------|-----------|---|
| (1) Distribution-related complaints | Goal | 30% reduction from FY 2015, complete elimination by the end of the new medium-term CSR plan |
| | (Actions) | Identifying and reducing risks of distribution-related complaints through active involvement by Head Office Logistics and RC Departments; Identifying and reducing risks of distribution-related complaints through active involvement by worksites' Logistics and RC Departments |
| (2) Product-related complaints | Goal | 30% reduction from FY 2015, complete elimination by the end of the new medium-term CSR plan |
| | (Actions) | Conducting company-wide quality risk assessments to reduce Rank A and B risks by 30% from the previous year; Increased efforts for the prevention of human error |
| (3) Consumer issues | Goal | Sharing information on issues |
| | (Actions) | Identifying products for consumers and confirming safety |

6. Chemicals and product safety^{RC}

- | | | |
|---|-----------|---|
| (1) Compliance with chemical-related laws and regulations | Goal | Zero violations |
| | (Actions) | Strengthening the management of chemical substances (for preparation of SDS and labels in and outside Japan) by adopting a new chemical substance control system;
Conducting regular training programs on chemical substance control |

7. Social dialogue^{RC}, community involvement and development^{CSR}, fair operating practices^{CSR}, and compliance

- | | | |
|---|-----------|---|
| (1) Local gatherings and community involvement | Goal | Maintaining the current number of local gatherings and improving their contents |
| | (Actions) | Continuing to have dialogues with concerned local people and relevant organizations and improving their contents |
| (2) Legal and other requirements | Goal | Zero legal violations |
| | (Actions) | Preparing a list of relevant laws and regulations, checking compliance using the PDCA cycle, taking measures to prevent recurrence of deviations, and rolling out these measures to other similar cases |
| (3) Creation of more opportunities for stakeholder engagement | Goal | Once a year per worksite |
| | (Actions) | Creating more opportunities for stakeholder engagement;
Incorporating results from stakeholder engagement activities to improve CSR and RC activities |

8. Human rights^{CSR}, labor practices^{CSR}

- | | | |
|--|-----------|---|
| (1) Acceptance of diversity | Goal | Increased ratio of female, disabled, older and foreign employees |
| | (Actions) | The creation of a corporate culture where the abilities of a diverse range of workers can be maximized will be promoted as will the improvement of the work environment |
| (2) Creation of rewarding workplace that employees can be proud of | Goal | Understanding and improving levels of employee satisfaction with their workplace |
| | (Actions) | Promoting mutual communication in the office and improving human resource training |

Akira Ishii

Representative Director, President
Chairman, CSR Administration Meeting
April 1, 2016

Evaluation results for FY 2018 and CSR activity policies for FY 2019 (Activity policy within the ISO 26000 Framework)

Item	Goals for FY 2018 (KPI)/Plan (P)	Results in FY 2018 (D)	Evaluation (C)
1. Management system and organizational governance	(1) Proper implementation 1) Continuous improvement using the PDCA cycle 2) Strengthening of measures to prevent problems caused by human error	1) ISO-certified worksites are preparing for transition to a new version; In CSR audits, it was confirmed that the transition was completed at Nippon Soda and four out of five group companies. 2) Goals for each worksite and each group company were determined and measures to achieve them were strengthened.	(1) 1) ◎ 2) ○
2. Environmental protection	(1) Environmental abnormalities: Zero events (2) Energy 1) Energy use per unit of production (excluding logistics): Annual improvement of 1% (production base) 2) Energy use per unit of transport: Annual improvement of 1% (sales base) (3) Reduction in greenhouse gas emissions: Annual reduction of 1%; No CFC leakage (4) Waste 1) Amount of final disposal as landfill: Annual reduction of 3% 2) Continuation of zero emissions (≤ 5%) (5) Emissions of harmful substances into the atmosphere: Annual reduction of 25% from the previous fiscal year 2015 (6) Reduction in impact on biodiversity and ecosystems	(1) Nippon Soda: 2 violations of the wastewater agreement 1 violation of the predetermined cap on emissions into the atmosphere Group: 1 failure in reporting required under the Water Pollution Prevention Act (2) 1) Not achieved 0.355 kL/t (1.8% increase) (due to decreased temperature in winter and decrease in the production of some products) 2) Not achieved in FY 2018 (due to increase in the number of distributed products with low unit prices) 0.0230 kL/million yen (10.6% increase) The actual volume of transported products was 46,098,000 ton-kilogram, 1,834 kL in crude oil equivalent (12.9% increase from the previous year) (3) Not achieved 226,409 t increase (4.0% increase) (4) 1) Achieved 78 t (68% decrease) (due to increased recycling of landfill waste) 2) Achieved 1.2% (≤ 5%) (5) Achieved 5.1 t (62% decrease) (due to the positive effect of the solvent conversion in FY 2016) (6) Chiba Plant: Himekomatsu supporter continued Odawara Research Center: Breeding of <i>medaka</i> obtained from the Sakawa river system Consideration ongoing at other worksites (gathering information)	(1) × (2) 1) × 2) × (3) × (4) 1) ◎ 2) ◎ (5) ◎ (6) ◎
3. Process safety & disaster prevention/BCP	(1) Major accidents at facilities: Zero accidents 1) Achievement of zero major accidents at facilities 2) Reduction in the risk of major accidents at facilities in line with BCP (2) Maintenance and improvement of a business continuity plan (BCP): Maintenance and improvement of the BCP using the PDCA cycle	(1) 1) Nippon Soda: 0; Group: 3 • September 20: A fire during deactivation of n-BuLi solution at Isohara Plant of Nisso Fine Co., Ltd. • October 2: A fire during welding at a drainage pit at Isohara Plant of Nisso Fine Co., Ltd. • October 26: White smoke released from a drum for distillation residue extraction at Koriyama Plant of Nisso Fine Co., Ltd. 2) Diagnosis of disaster prevention capability: 7; Safety audit prior to trial operation: 4; Special CSR audit: 3 (2) Revised on April 1, 2017; The 7th version was distributed. Each business site: Disaster drill Head Office: Earthquake response drill	(1) 1) × 2) ◎ (2) ◎
4. Occupational safety & health	(1) Occupational accidents resulting in an absence from work or no absence: No accidents 1) Conducting of risk assessment to reduce occupational accidents 2) Strengthening of measures to prevent human error 3) Implementation of activities to ensure safety (2) Health promotion: 10% reduction in the total number of absentee days, including mental-health-related absence, and 10% reduction in the incidence of personal injury and illness (average in the period from 2012 to 2014) 1) Follow-up of those undergoing periodic medical examinations 2) Mental health checkups and follow-ups, health education	(1) 8 cases involving absence from work (employees: 3; affiliate company employees: 4; group company employees: 0; group affiliate company employees: 1) 6 cases involving no absence (employees: 1; affiliate company employees: 0; group company employees: 3; group affiliate company employees: 2) 1) 2) CSR audits and safety patrols confirmed that safety activities were favorably implemented and corrections were made. 3) Occupational accident prevention survey: A survey with the aim of improving risk responding abilities of on-site workers was conducted by Sampo Risk Management & Health Care on December 13 and 14 at Takaoka Plant. (2) 32% reduction in the total number of days of absence from the average of the period from 2011 to 2014 7% decrease in the number of occurrences 1) 2) Guidance for improvement was offered by healthcare professionals and in-house health personnel.	(1) × 1) 2) ◎ 3) ◎ (2) ◎
5. Distribution safety, quality assurance and consumer issues	(1) Distribution-related complaints: 60% reduction from FY 2015 1) Identification and reduction of risks related to distribution-related complaints through proactive involvement by the Head Office Logistics and RC Departments. Identification and reduction of risks related to distribution-related complaints through proactive involvement by each worksite's Logistics and RC Departments (2) Product-related complaints: 60% reduction from FY 2015 1) 30% reduction in rank A and B risks from the previous year by company-wide introduction of quality risk assessment, strengthening of measures to prevent human error (3) Consumer issues: Sharing of information on relevant issues 1) Identification of consumer products and confirmation of their safety	(1) Remained the same since FY 2015 (FY 2015: 3; FY 2018: 3) 1) Inspection and audit of logistics companies and education for them Proposal for improvement of customers' facilities Gathering of information through industry groups (2) 28% increase from FY 2015 (18 in FY 2015, 23 in FY 2018) 1) Rank A: 98% reduction; Rank B: 70% reduction Education to prevent human error was provided at each worksite. (3) Sharing of information on relevant issues 1) Identification: Hi-chlon, Merusan, pesticide formulation products Confirmation of safety: Gathering of information on poisoning cases from specialized organizations Provision of education to sales agents	(1) × 1) ◎ (2) × 1) ◎ (3) ◎ 1) ◎
6. Chemicals & product safety	(1) Compliance with chemical-related laws and regulations (zero violations) 1) Zero violations 2) Strengthening the management of chemical substances by adopting a new chemical substance control system (use of domestic and overseas SDSs, label preparation) 3) Periodic educational programs on chemical substance control	1) Zero violations 2) Efforts in cooperation with external companies are ongoing. 3) Implemented according to the plan.	(1) ◎
7. Social dialogue RC, community involvement/development CSR, fair operating practices CSR, & compliance	(1) Local gatherings and community involvement 1) Retention of a certain number of local gatherings and improvement of their contents (2) Legal and other requirements 1) Zero legal violations (3) Creation of more opportunities for stakeholder engagement 1) Once a year per worksite	(1) Local gatherings and community involvement 1) Achieved (≥ 25 events/year) 49 local gatherings (2) Not achieved: All the violations have been corrected. Nippon Soda: 2 violations of the wastewater agreement (Chiba Plant, Takaoka Plant) 1 violation of the predetermined cap on emissions into the atmosphere (Takaoka Plant) Group: Correction recommendations from the Labor Standards Inspection Office (Nisso Metallochemical: 10; Nisso Construction: 3) Delay in reporting required for specified facilities under the Water Pollution Prevention Act (Nisso Fine) (3) Achieved 1) Verification of the CSR report by the Japan Chemical Industry Association (JCIA) Diagnoses of disaster prevention capability, occupational accident prevention survey, etc. were conducted by Sampo Risk Management & Health Care.	(1) ◎ (2) × (3) ◎
8. Human rights-related CSR/Labor practices	(1) Embracing diversity 1) Increase in the rate of employment of women, disabled people, older people and foreign nationals Consideration and proposal on support programs to enable men and women to achieve balance between work and child rearing and long-term care, throughout the year 2) The creation of a corporate culture where the abilities of a diverse range of workers can be maximized will be promoted, as will the improvement of the work environment (2) Rewarding workplace that employees can be proud of 1) Understanding and improvement of employee satisfaction 2) Improvement of in-house communications and programs for human resources development	(1) Embracing diversity 1) 22 new graduates were hired for administrative job family, including 2 females and 1 foreign national Employment rate of disabled persons: 2.04% (as of March 2018) 2) Introduction of a career development support system • Explanatory session (May 2017), career training for management (June 2017), career training for employees in their 20s and 30s (August 2017), development of the career vision sheet (September 2017), career interview (February 2018) (2) 1) • Employee satisfaction survey results were provided to each site. Issues were shared. • Development and implementation of an action plan • Head Office district a motivation survey was conducted. 2) Career training under the system described above in 1-2) was provided. Communication based on the career vision sheet between supervisors and subordinates was strengthened.	(1) 1) △ 2) ◎ (2) 1) ◎ 2) ◎

Note: Achievement rate ◎: ≥ 90% ○: 90-80% △: 80-60% ×: ≤ 60%

Future policies (A)	Goals for FY 2019 (P)
<p>1) Transition by the remaining one company is scheduled for July or later in 2018. Preparation for transition from OHSAS 18001 to ISO 45001</p> <p>2) Continuous correction and education will be promoted throughout the group to help employees recognize how to prevent human error.</p>	<p>(1) Proper implementation</p> <p>1) Continuous improvement using the PDCA cycle</p> <p>2) Strengthening of measures to prevent problems caused by human error</p>
<p>(1) Activities to prevent environmental problems will be implemented according to the CSR Plan.</p> <p>(2)</p> <p>1) Energy-saving will be promoted according to the plan to reduce the annual energy use per unit of production by 1%.</p> <p>2) The optimization of transportation routes will be considered.</p> <p>(3) Improvement measures will be implemented in conjunction with energy-saving activities. Regular inspections and maintenance in compliance with relevant laws and regulations will be implemented.</p> <p>(4)</p> <p>1) Measures will be implemented to achieve the reduction target.</p> <p>2) The ratio of zero waste emissions will be maintained at < 5.0%.</p> <p>(5) Reduction measures will be implemented continuously.</p> <p>(6) An activity plan will be developed and implemented.</p>	<p>(1) Environmental abnormalities: Zero events</p> <p>(2) Energy</p> <p>1) Energy use per unit of production (excluding logistics): Annual improvement of 1% (production base)</p> <p>2) Energy use per unit of transport: Annual improvement of 1% (sales base)</p> <p>(3) Reduction in greenhouse gas emissions: Annual reduction of 1%; No CFC leakage</p> <p>(4) Waste</p> <p>1) Amount of final disposal as landfill: Annual reduction of 3%</p> <p>2) Continuation of zero emissions</p> <p>(5) Emissions of harmful substances into the atmosphere: Annual reduction of 25% from FY 2015</p> <p>(6) Reduction in impact on biodiversity and ecosystems</p>
<p>(1)</p> <p>1) Continuous implementation</p> <p>2) Diagnosis of disaster prevention capability, safety audit prior to trial operation and special CSR audits will be continued.</p> <p>(2)</p> <p>1) To be revised on April 1, 2018; The 8th version will be distributed. An action plan for disseminating emergency information in the event of a Nankai megathrust earthquake will be added. The 8th revised version will be prepared.</p>	<p>(1) Major accidents at facilities: Zero accidents</p> <p>1) Achievement of zero major accidents at facilities</p> <p>2) Reduction in the risk of major accidents at facilities in line with BCP</p> <p>(2) Maintenance and improvement of a business continuity plan (BCP): Maintenance and improvement of the BCP using the PDCA cycle</p>
<p>(1) Efforts to prevent accidents will continue to be promoted, such as the attraction of attention of the entire company by the Central Safety and Health Committee and the CSR Promotion Subcommittee.</p> <p>1)2) Relevant information will be shared among worksites.</p> <p>3) Improvement based on occupational accident prevention survey results will be considered and information on the results will be shared among worksites.</p> <p>(2)</p> <p>1)2) More emphasis will be placed on health guidance for those with abnormal findings in medical examinations; Care will be provided to highly stressed employees at an early stage.</p>	<p>(1) Occupational accidents resulting in an absence from work or no absence: No accidents</p> <p>1) Conducting of risk assessment to reduce occupational accidents</p> <p>2) Strengthening of measures to prevent human error</p> <p>3) Implementation of activities to ensure safety</p> <p>(2) Health promotion: 10% reduction in the total number of absentee days, including mental-health-related absence, and 10% reduction in the incidence of personal injury and illness (average in the period from 2012 to 2014)</p> <p>1) Follow-up of those undergoing periodic medical examinations</p> <p>2) Mental health checkups and follow-ups, health education</p>
<p>(1) Inspection and audit of distribution companies and provision of education to them will be continued. Request for improvement of customers' facilities will be continued. Information gathering via industrial organizations will be continued.</p> <p>(2) Exchange of opinions at internal meetings and sharing of information on disaster prevention measures among worksites will be continued. Improvement of the internal management system will be continued.</p> <p>(3) Gathering of information on poisoning cases from specialized organizations will be continued. Provision of education to sales agents will be continued.</p>	<p>(1) Distribution-related accidents/complaints: 90% reduction from FY 2015</p> <p>1) Identification and reduction of risks related to distribution-related complaints through proactive involvement by the Head Office Logistics and RC Departments. Identification and reduction of risks related to distribution-related complaints through proactive involvement by each worksite's Logistics and RC Departments</p> <p>(2) Product-related complaints: 60% reduction from FY 2015</p> <p>1) 30% reduction in rank A and B risks from the previous year by company-wide introduction of quality risk assessment, strengthening of measures to prevent human error</p> <p>(3) Consumer issues: Sharing information on consumer issues</p> <p>1) Consumer products will be identified and their safety will be confirmed.</p>
<p>1) Will be continued.</p> <p>2) Will be continued.</p> <p>3) Will be continued.</p>	<p>(1) Compliance with chemical-related laws and regulations (zero violations)</p> <p>1) Zero violations</p> <p>2) Strengthening the management of chemical substances by adopting a new chemical substance control system (use of domestic and overseas SDSs, label preparation)</p> <p>3) Periodic educational programs on chemical substance control</p>
<p>(1) Implemented according to the plan.</p> <p>(2) Causes will be identified and measures to prevent recurrences will be taken. Information on the measures to prevent recurrences will be shared among worksites for implementation.</p> <p>(3) Implementation will be continued according to the plan.</p>	<p>(1) Local gatherings and community involvement</p> <p>1) Retention of a certain number of local gatherings and improvement of their contents</p> <p>(2) Legal and other requirements</p> <p>1) Zero legal violations</p> <p>(3) Creation of more opportunities for stakeholder engagement</p> <p>1) Once a year per worksite</p>
<p>(1) 1) • Implementation of new measures to increase the number of women employed • Promotion of employment of disabled persons</p> <p>2) • Expansion of eligibility for the career development support system • Discussion in preparation for introducing a succession plan will be started. • Internal education using in-house newsletters and other media will be continued. • Diversity training will be continued.</p> <p>(2)</p> <p>1) • Development and implementation of an action plan</p> <p>2) • Interviews using the career vision sheet</p>	<p>(1) Embracing diversity The employment rates of women, disabled people, older people and foreign nationals will be increased. The creation of a corporate culture where the abilities of a diverse range of workers can be maximized will be promoted as will the improvement of the work environment.</p> <p>(2) Creation of a rewarding workplace that employees can be proud of: Employee satisfaction levels will be identified and improved. In-house communications will be strengthened and programs for human resources development will be improved.</p>

CSR Activities to Improve Corporate Value

Special Section

Supporting society and daily life in the future through the power of chemistry



The Power of Chemistry

Efforts to achieve sustainable agriculture

Society 5.0 for SDGs Agri Tech



The world population is estimated to increase by about 30% to exceed nine billion people by 2050. As a result of economic growth, the demand for meat production has increased and it has become necessary to secure not only food for humans but also crops used to feed livestock. Due to the limited area for cultivation around the world, agrochemicals are essential in terms of crop protection. They not only ensure yields but also help reduce the labor burden on farmers.

Nippon Soda considers it important to increase the production of food and livestock feed, diversify crop protection, and increase the safety of users of agrochemicals. Based on this idea, we aim to become a chemical group that contributes to addressing agricultural and food issues.

Promotion of smart agriculture using a drone, which is friendly to farmers and the environment

Since the 1950s, when we started our business in the agrochemical field, Nippon Soda has developed, produced and marketed various kinds of agrochemical products with unique features, which have been well received in the global market. We annually invest five billion yen into research and development in the agricultural field. With the sales of agrochemical products occupying one third of our consolidated net sales, we regard agrochemical products as a key driver of future growth. Nippon Soda also places emphasis on obtaining registration of agrochemicals in countries where we export agricultural products and setting residual standards in these countries so that we can export agrochemicals produced in Japan.

A recent technological development has enabled farmers to spray agrochemicals using aerial drones. This method requires fewer chemicals for pest control than before, contributing to labor saving and better safety for users. Associated issues that need to be addressed are the development of new agrochemical agents and the costs required for registering newly developed agents. Topsin-M® Sol has obtained approval for registration. Currently, we are developing highly concentrated formulations for low-volume spraying, such as Mospilan® flowable.

Seminars on use of agrochemicals in Japan

To ensure food yields through the use of agrochemicals, it is important to respond to ever-advancing methods of crop cultivation and technology for pest control and elimination, as well as to provide users with information that helps them use the agrochemicals correctly and effectively and in proper amounts. One of our educational activities involves organizing local seminars to help farmers and local residents correctly understand how to use agrochemicals and about the safety of agrochemicals. In Japan, we held 743 sessions in 2016 and 621 sessions in 2017. We are also making similar efforts outside Japan through our employees stationed abroad and partner companies.

We will continue to develop and provide new agrochemicals that are effective for controlling pests and weeds and have less impact on people and the environment, and to promote educational activities to spread information on proper use, with the aim of ensuring increased crop yields.

Zoom In Syngenta



Nippon Soda and Syngenta signed a licensing agreement to promote the development and registration of the products of the former combined with the latter's seed treatment technique for corn, soybean, rapeseed and wheat varieties. A combination of Syngenta's seed treatment technique to control pythium diseases and Nippon Soda's picarbutrazox enables effective prevention and control of crop diseases. Seed treatment has less environmental impact than agrochemical spraying and is also safe for users. In addition, the use of seed treatment is economically advantageous due to its low cost per unit area. Our first goal is to obtain approval for registration in North America. We are also considering expansion into Europe and Brazil to contribute to increasing global food and feed production using the seed treatment technique.



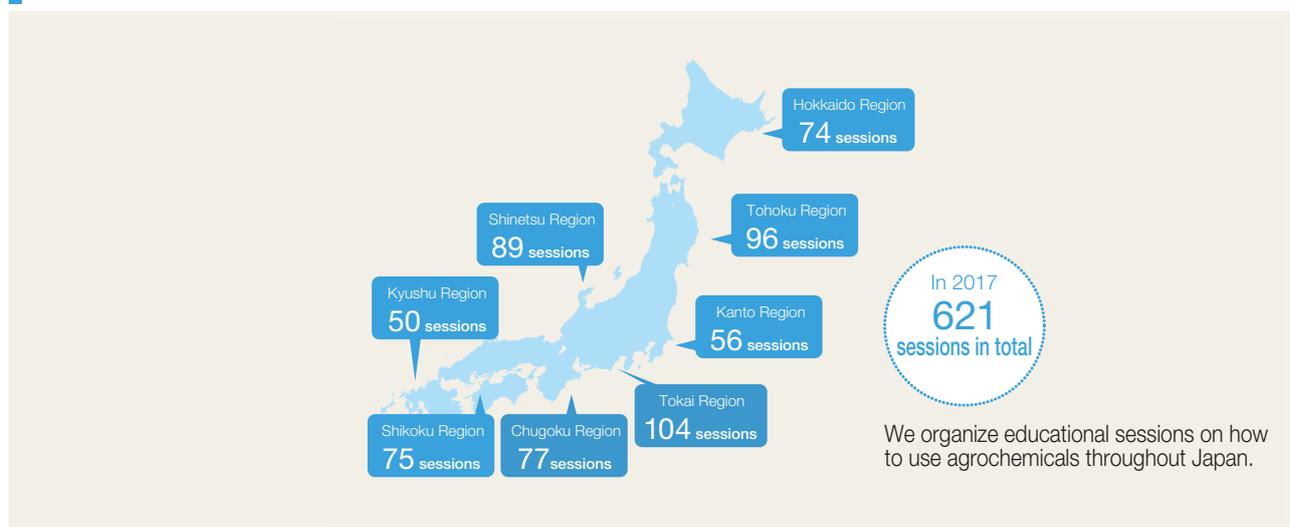
Materiality

Contribution to ensuring food safety and security and sustainable agriculture using agrochemicals

- (1) Increase in food and feed production
- (2) Diversification of crop protection
- (3) Improvement of user safety (safety of chemicals and products)¹

1. Including efforts related to chemicals and product safety among "CSR activities to protect corporate value"

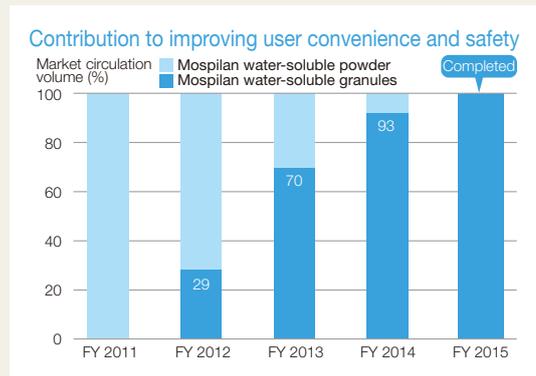
KPI (1) Seminar hosting situation



KPI (2) Situation of initiatives

In February 2018, Nippon Soda and Syngenta signed a licensing agreement to promote the development and registration of the products of the former combined with the latter's seed treatment technique for corn, soybean, rapeseed and wheat varieties. A combination of Syngenta's seed treatment technique to control pythium diseases and Nippon Soda's picarbutrazox enables effective prevention and control of crop diseases.

KPI (3) Situation of transition to granular formula



We improve our products to enhance user convenience and safety. For example, we changed the form of our insecticide MOSPILAN, one of Nippon Soda's best-known products, from water-soluble powder to water-soluble granules. The replacement has helped improve convenience, making it easier to handle the product and reducing dust when used. Reduced dust means reduced exposure of users to the agrochemical, contributing to improving safety.

CSR Activities to Improve Corporate Value

Special Section

Supporting society and daily life in the future through the power of chemistry



The Power of Chemistry

A healthy life supported by medicines

Society 5.0 for SDGs Health Tech



Point Japan is facing a population decline in addition to an accelerated declining birth rate and population aging. Nippon Soda focuses its efforts on ensuring healthy lives for people in all age groups and helping all people enjoy good health through medicines. The use of NISSO-HPC (hydroxypropyl cellulose) in formulating medicinal products allows us to produce medicines that are easier to swallow.

One of Nippon Soda's priority goals is to provide easy-to-swallow and effective medicines formulated by using NISSO-HPC. We will develop ingredients that improve the functions of medicinal products and reduce the burden on patients when swallowing medicines so as to improve the quality of life for all people.

Developing smaller tablets to make them easier to swallow

Due to the population increase in emerging economies as a result of economic growth and the increasingly aging population mainly in advanced countries, the need for medicinal products is increasing on a daily basis. Nippon Soda's NISSO-HPC has been well received for nearly 50 years as an excipient essential for the formulation of medicinal products. NISSO-HPC, which is listed in the Japanese Pharmacopoeia, was used in about 57% of ethical drug products in tablet form marketed in Japan in 2017. By using NISSO-HPC, it is possible to increase the content of the main ingredient, reducing the frequency of administration and the dosage that patients need to take. Small-size tablets are easier for children and elderly people to swallow. NISSO-HPC is used to coat bitter-tasting drugs and to develop drugs that can be taken without water, contributing to making medicines easier for patients to take.

Cellulose, one of the raw materials of NISSO-HPC, exists in nature and its safety has been established. NISSO-HPC is stable for several years at room temperature and therefore has excellent storage properties. We

market NISSO-HPC to help all people enjoy good health through medications, promoting public welfare.

All-day lasting effects of once-daily administration

Nippon Soda also focuses on "controlled release" technology, which can be used to develop preparations with sustained-release action. This technology is used to control the release of an active ingredient so that it can be absorbed slowly, allowing the efficacy to be maintained for longer hours. For example, the efficacy of once-daily dosing of a controlled-release cold medicine lasts all day. We have made presentations on "controlled release" at academic conferences and exhibitions in Japan and abroad, with an eye on global expansion. While there are excipients that are commonly used in foreign countries, our technology has been increasingly recognized and widely accepted through our promotional efforts. We will continue to disseminate information on the advantages of the controlled release technology with the aim of establishing a selling system to further spread the technology in the next five to 10 years.



Zoom In

Tablet formulation using a 3-D printer

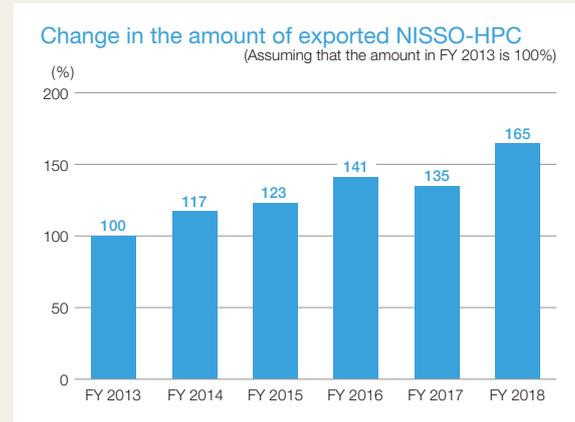
Using a 3-D printer installed at a pharmacy, Nippon Soda is conducting research for the practical application of NISSO-HPC as a binder to prepare customized drugs tailored to the circumstances of each individual patient. With this method, it is possible to change drug sizes, combine more than one drug, and process a drug into a shape that is physically easy to swallow. When the method can be applied practically in the future, we can provide patients with medications that are easier to take. In addition, pharmacists will not have to dispense drugs, improving their efficiency. We have made presentations on this method at academic conferences in and outside of Japan and are considering various marketing approaches, including the establishment of partnerships.

Materiality

Contribution to providing health to all people through pharmaceuticals

(1) Easy-to-swallow, effective medicines through NISSO-HPC

KPI (1) Situation of contributions



At present, NISSO-HPC is exported to more than 60 countries.



Nippon Soda was recognized, under the name of “Nippon Soda thru Nisso Shoji,” by United Laboratories, Inc. (Unilab) in the Philippines as one of the seven awardees of the Model of Excellence selected from more than 400 suppliers for its NISSO-HPC (hydroxypropyl cellulose) in the Total Quality Achievement Awards in 2017. The Model of Excellence Award is the highest award given out at Unilab’s Total Quality Achievement Awards. Nippon Soda, also under the name of “Nippon Soda thru Nisso Shoji,” was concurrently recognized as a Certified Supplier, an award second only to the Model of Excellence Award, along with some 20 other suppliers. This was the second time we were recognized as a Certified Supplier, following the same in FY 2017.

CSR Activities to Improve Corporate Value

Special Section

Supporting society and daily life in the future through the power of chemistry

The Power of Chemistry
Achievement of the environmentally sound recycling of resources

Environment



Society 5.0 for SDGs Envi Tech



Point

As the world's population is increasing, there have been growing concerns over issues related to water resources, which are essential for comfortable living, and adverse effects caused by waste. At present, according to a UN survey, 660 million people are suffering from a shortage of safe water.

Nippon Soda places emphasis on the stable supply of water resources and reduction of environmental impacts of waste as its priority issues that should be addressed. As a chemical company, we ensure hygienic management of water and reduction of substances that have an adverse impact on the human body in order to fulfill our responsibility and contribute to society.

Solid chlorine agents, which help ensure the supply of water resources

Public demands for securing the availability of water to support comfortable everyday life have been increasing not only in Japan but also in various regions around the world. Nippon Soda's NISSO HI-CHLON is a solid chlorine agent that has been contributing to the management of water hygiene for more than 50 years since its launch in various regions around the world. In Japan, it has been mainly supplied to schools as a water disinfectant for swimming pools. In the Middle East, which is in the tropical dry climate zone, the demand for solid chlorine agents with high stability is increasing.

The amount of water that has been disinfected and sterilized using NISSO HI-CHLON is 22 million tons per year. Although this is a tiny amount compared with the annual amount of wastewater discharged from households in Japan, which is 13 billion tons, we at least contribute to helping local people live a comfortable life by supplying products useful in the management of water hygiene. This effort is related to Goal 11 (Sustainable Cities and Communities) and Goal 12 (Responsible Consumption and Production) of the Sustainable Development Goals (SDGs).

As a result of the recent trend toward healthy living, the demand for shrimp as a protein alternative to meat has

been increasing. In Vietnam, shrimp farming is popular. Cultured shrimp are grown in brackish water. For this reason, culture ponds are constructed along coastal areas. NISSO HI-CHLON is used to kill bacteria that are present in these culture ponds. It is an agent essential for purifying pond water. In response to an increasing global population, we supply NISSO HI-CHLON, which is safe for the growth of cultured shrimp, to secure food sources.

Reduction of environmental impact of waste

Nippon Soda's HIDION is a heavy metal stabilizer used to treat fly ash from waste incineration. By mixing the agent into fly ash, the ash is immobilized, preventing lead and other heavy metals from scattering and liquating. In Japan, insolubilization treatment of heavy metals, mainly lead, contained in fly ash is legally required. HIDION is highly regarded as an agent for insolubilization treatment. At present, it is sold mainly in Japan. The domestic market, however, is expected to shrink due to the population decline, declining birth rate and aging population. In response, we are considering expanding sales of HIDION globally. Because of the differences in laws and regulations for heavy metals in different countries, we have many obstacles to overcome. We will continue to conduct surveys on this matter so that we can contribute to reducing environmental impacts around the world.



Zoom In

Sketoile and Toilet Gel for disaster use

When a large-scale earthquake or other disaster occurs, our daily life is affected and our activities are restricted. Among problems in disaster-affected areas, toilet-related problems due to the suspension of water supply can lead to infections. Sketoile, a defecation storage bag for emergencies, can be used anywhere and can prevent secondary disasters. It has been used by long-term care facilities in recent years as well as in ordinary daily settings. We also provide daily necessities that help maintain the social environment, such as TAKE-ONE, a urolith prevention agent for flush toilets. We are considering expanding the market for these products not only in Japan but also in emerging economy countries.



Materiality

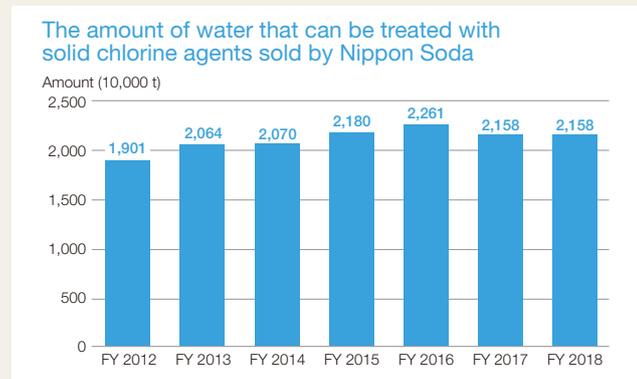
Contribution to ensuring the environmentally sound recycling of resources using chemistry (technical competence)

- (1) Steady supply of water resources
- (2) Reduction of environmental impacts caused by waste

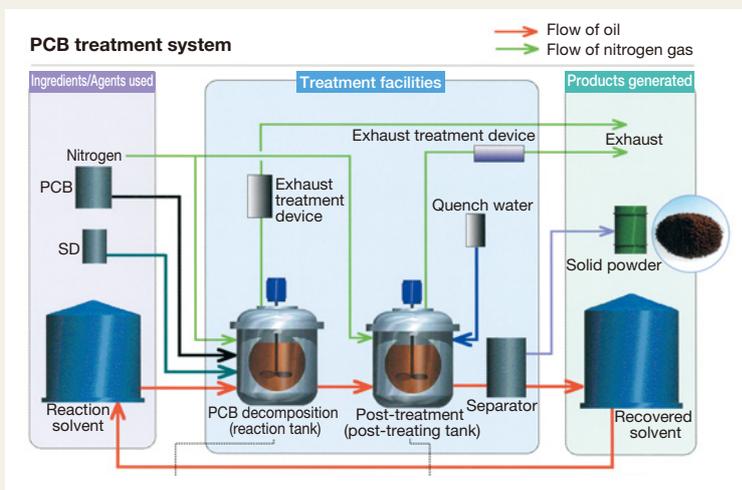
Contribution to sustainable plant protection

- (1) Protection of precious trees such as pines from harmful insects

KPI (1) The amount of supplied water



KPI (2) Reduction of environmental impact of waste



PCB detoxification treatment system

Simply reacting chlorine atoms (Cl) in PCBs with sodium (Na) generates a detoxified substance (biphenyl) and salt (NaCl).

Nippon Soda's technology can treat PCB contamination caused in the past and allows detoxified oil to be used as fuel, thus contributing to the environmentally sound recycling of resources.

KPI (1) Situation of contribution

In November 2017, we completed acquisition of a plant health business from Zoetis Japan, including Greenguard, an agent for preventing pine tree withering. After assessing the effects of Greenguard, which is designed to be injected into pine trunks, we have concluded that it can help reduce environmental impacts. Based on this result, we have added contribution to greening/landscape preservation as a new materiality issue from FY 2019 onward.

CSR Activities to Improve Corporate Value

Special Section

Supporting society and daily life in the future through the power of chemistry

The Power of Chemistry

The potential of high-performance materials



Society 5.0 for SDGs Infra Tech



Thanks to high-speed internet, anybody can now send and receive information. Tablet terminals are used in educational settings and senior citizens carry a smartphone. Products featuring universal design have become available so that a diverse range of people can use them comfortably. One of Nippon Soda's priority activities is to provide high-performance materials friendly to people and the environment in order to contribute to the spread of information terminals that can easily be used by anyone. We supply materials that support the development of information and electronic technology with the aim of achieving business success as well as contributing to the development of the information society.

Environmentally conscious high-performance materials unique to Nippon Soda

Nippon Soda's functional chemicals are used in various daily settings. As mobile phones and tablets are becoming increasingly popular, the demand for high-performance materials for terminals that are hard to break, even if dropped, is increasing. As a result of this shifting market trend, NISSO-PB, which was developed more than 40 years ago in the 1970s, has recently attracted attention in the information industry as a highly functional liquid polymer that is durable over time. Information processing devices, such as mobile phone terminals, need to process vast amounts of information. To meet this need, there has been increasing demand for higher-performance semiconductor-related products.

Touch screens are now commonly used for smartphones and tablet terminals. NISSO-PB, which is hydrogenated, is used as an optical adhesive material in the process of manufacturing liquid crystal displays of touch screens. NISSO-PB, which is not only compliant with relevant laws and regulations but also highly safe and functional, meets the recently increasingly stringent standards for the management of chemicals, both socially and environmentally.

Smartphones and tablets became widely available in 2010. In 2016, the number of shipped units reached 2.3 billion. The annual number of shipped units of terminals in which NISSO-PB is used is estimated to be more than 400 million. * Our estimate

Copper clad laminates for next generation communications

Broadband has become widely available and communication speed and stability have been improved. As a result, web conferences have become popular. The widespread rollout of the next-generation "5G" mobile communication network will enable speedier web conferences and video transmission. Base stations that receive radio waves from satellites in space need to avoid high frequencies. For this purpose, copper clad laminates are used. NISSO-PB, which has a high dielectric constant and high insulation in a high-frequency region, is also used for these copper clad laminates. As these examples show, Nippon Soda's functional chemicals are used not only for mobile terminals but also at base stations. They are now indispensable for advanced information and telecommunications.



Zoom In

Semiconductor photoresist material: VP-Polymer

Semiconductors are used in electronic devices familiar to us in our modern society, such as sensors in cars and personal computers. To draw an electric circuit diagram on a semiconductor substrate, an agent called a krypton-fluoride (KrF) photoresist is used. VP-Polymer, an ingredient in the photoresist, can contribute to the manufacturing of semiconductor structures, which needs advanced micro-fabrication techniques. As there has been increasing demand for larger-capacity and higher-speed semiconductors, the need for VP-Polymer is increasing day by day.



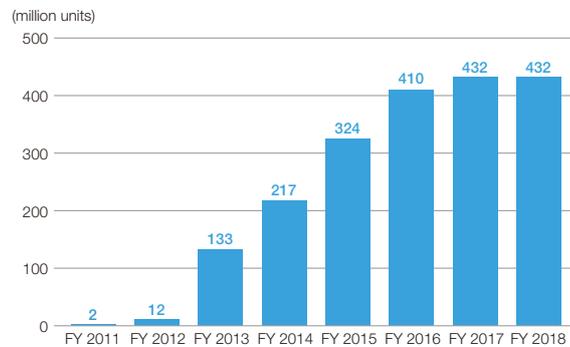
Materiality

Contribution to the development of information appliances friendly to the environment and people by supplying high-function materials

(1) Supply of high-function materials friendly to the environment and people

KPI (1) Number of portable communication terminals using our products

Shipments of portable communication terminals using our polymers (Our estimate)



Development of the next generation of human resources

Human resources development to help all employees maximize their abilities



Diverse human resources as the source of competitiveness

Nippon Soda believes that having a workforce made up of people with diverse sets of values is essential for generating new innovations and increasing global competitiveness. In this context, we recognize the promotion of diversity as an important management strategy. Efforts to promote diversity include transformation of our personnel systems to make full use of our diverse human resources, improvement of the corporate culture and work environment, and implementation of various other basic support systems. Through these efforts, we aim to become a company where motivated, competent employees can enjoy working and continue to grow and develop regardless of gender, age, nationality, etc. We will also promote the implementation of a succession plan to strengthen our efforts in developing the next generation of workers.

With a focus on the next generation of Nippon Soda employees, we will develop a system and environment where individuals with different values can engage in friendly competition with one another to improve themselves, regardless of their track record, in order to maximize diverse sets of competencies.

We are also placing emphasis on hiring mid-career professionals so that we can take into account perspectives and ideas from other industries. Efforts in this regard will include an update of our recruitment website and inviting employees to appear as speakers at explanatory sessions, with the aim of attracting the attention of large numbers of people.

We will continue our efforts to create a work environment where all employees can maximize their abilities and play an active role as well as develop competent human resources.

> [Schematic diagram of Nippon Soda's human resources training system](#) 

Safety standards passed on to the future through education

Core positions for employees of Nippon Soda consist of core specialized positions and core managerial positions.

Employees in core specialized positions are engaged in highly specialized activities within a limited scope of work, such as exploratory research that requires expertise in chemistry, manufacturing technology research, and development of new applications. Employees in core managerial positions are expected to be equipped with a broad range of knowledge and to proactively identify public needs so as to develop business globally.

In parallel with the increase in new graduate and mid-career hires, the number of experienced employees leaving the company at the mandatory retirement age is increasing, raising concern over how techniques and safety standards should be passed on. To respond to this concern, we have established a human resources development program called the "Academy." Its objective is to help employees acquire knowledge and skills as well as increase their safety awareness through actual work experience so as to prepare them to deal with hazards at worksites. Programs run by the Academy are designed to provide safety education through actual experience to help participants learn about possible dangers. Participants also learn about the meaning of each task and the importance of ensuring safety in other employees' work. Through these educational programs, we pass on our safety manufacturing standards, which is one of our most prized values, from generation to generation.



Zoom In

"Nisso Takaoka Academy" educational program to maintain safety standards in the future

The Nisso Takaoka Academy was opened in FY 2016 at Takaoka Plant to provide systematic training programs for newly employed personnel for manufacturing jobs for the purpose of technology transfer.

In FY 2017, with the aim of developing personnel capable of operating a safe and highly productive manufacturing site, we started to apply programs of the Nisso Takaoka Academy throughout the company. Since FY 2018, these programs have also been adopted by manufacturing group companies.



Materiality

Development of the next generation of human resources

(1) Educational system to maintain safety standards in the future

KPI (1) Situation of human resources development

Details of the Nisso Takaoka Academy

■ Session held in May 2017

Number of participants: 31 (Nippon Soda: Nihongi Plant, Takaoka Plant, Mizushima Plant, Chiba Plant;
Nisso Fine: Isohara Plant, Onahama Plant)

| Main training themes

- Safety education: Special lecture on oxygen deficiency, specific method to apply the 4 Safety Cycles, how to handle steam, forklifts, how to handle organic solvents, case studies of disasters, how to handle electric tools
- Educational program on maintenance and instruments: Machine maintenance, how to read engineering flow diagrams (EFDs), electricity, instruments and measurement
- Educational program on on-site works: Correct usage of tools and equipment, how to install and remove flanges, airtightness testing of pipes, how to assemble and disassemble pipes
- External educational programs: How to handle respirators, practical education and safety education (actual experience of hazards of working at heights, actual experience of hazards associated with slinging work, actual experience of hazards associated with rotating machines, actual experience of hazards associated with electricity)

| Objective of the session

To acquire basic knowledge and learn about basic machine structure so as to improve safety awareness



Environmental Protection

With the goal of minimizing the impact of our business activities on the environment, the Nippon Soda Group is engaged in environmental protection with a focus on saving energy and resources, reducing and recycling waste, and reducing emissions of harmful substances.

Basic concept

- Continuing efforts to prevent environmental pollution, complying with laws and regulations, and promoting other environmental activities
- Reduction of environmental impact associated with business operations (prevention of global warming, and reduction in waste generation and waste to landfill)
- Development of products and processes with less environmental impact
- Adoption of environmental management systems (EMSs); Reduction of energy consumption, while maintaining productivity

Environmental protection

Responses to climate change issues

Efforts to prevent global warming are critical. Nippon Soda participates in the Commitment to a Low Carbon Society, a voluntary action plan promoted by the Japan Business Federation (Keidanren). Under the action plan, we are promoting energy saving to achieve the reduction targets for CO₂ emissions in FY 2021.

● Reduction of energy consumption and greenhouse gas emissions

Our efforts to improve our energy use per unit of production include the replacement of old and obsolete equipment with highly efficient models, the streamlining of production processes and reduction of energy consumed, and the implementation of power-saving measures.

We will continue our efforts from various approaches to enhance energy saving and reduce emissions of greenhouse gases.

● Use of renewable energy

Nihongi Plant draws its industrial water from a river to generate electricity hydraulically using the difference in elevation when returning excess water to the river. Since the establishment of the hydroelectric facility in 1940, generated electricity has been effectively used for production activities at the plant. We will continue to carefully maintain the power station for the continued generation of renewable energy.



From the hydroelectric power station to the water tank



Hydraulic power generation at Nihongi Plant

● Promotion of energy saving by the Logistics Department

As a specified consigner designated under the Act on the Rational Use of Energy (Energy Saving Act), Nippon Soda submits an annual report and an annual plan to the Ministry of Economy, Trade and Industry as well as implements measures to reduce energy use per unit of production.

Nippon Soda has been making efforts to improve efficiency and reduce environmental impacts in terms of logistics through modal shifts, reducing the number of trips by using larger-sized shipping containers, and adjusting logistics distribution routes. For our modal shift efforts, we were certified in 2013 as an “Eco Rail Mark” company.



Effective use of resources and reduction of industrial waste

Nippon Soda participates in the Voluntary Action Plan on the Environment promoted by the Japan Business Federation (Keidanren). Under the action plan, we promote industrial waste reduction to achieve the target amount of reduction in the final disposal of industrial waste as landfill.

● Proper management of industrial waste and reduction of the final disposal of industrial waste to landfill

As one of its efforts to help build a recycling-based society, Nippon Soda reduces industrial waste emissions from a long-term perspective and, at the same time, promotes the recycling of industrial waste items and implements other measures to reduce the final disposal amount of industrial waste going to landfill.

● Zero emissions

Nippon Soda has achieved zero emissions¹ for eight consecutive years.

1. "Zero emissions" is the state wherein the amount of industrial waste disposed finally to landfill is less than the amount of transported industrial waste, which Nippon Soda defines to be 5% or less.

● PCB waste

Each Nippon Soda site properly stores and manages condensers, transformers, high-pressure mercury lamp ballasts and other devices that contain PCBs in accordance with the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes, which was revised in 2012.

Condensers, transformers and other devices containing high levels of PCBs are registered with the Japan Environmental Storage & Safety Corporation (JESCO) for treatment. Devices containing a small amount of PCBs (5,000 mg/kg or less) are properly treated at a detoxification treatment plant certified under the Waste Disposal and Public Cleansing Act.

Atmosphere and water area protection

Nippon Soda implements various measures to protect the atmosphere and water quality, such as measures to reduce emissions of chemical substances specified by the PRTR Law and toxic substance emissions to water, in accordance with the Air Pollution Control Act, the Water Pollution Prevention Act, and the latest regulatory trends.

● Reduction of chemical substances specified by the PRTR Law

Nippon Soda takes measures to reduce emissions to the environment of Class 1 chemical substances specified by the Pollutant Release and Transfer Register (PRTR) Law.

● Reduction of emissions of harmful substances to the atmosphere

Twelve chemicals among those categorized as priority substances under the Air Pollution Control Act are designated as voluntarily controlled chemical substances by the Japan Chemical Industry Association (JCIA). Of the 12 chemicals, our company currently deals with the following six substances: chloroform, dichloromethane, 1,2-dichloroethane, ethylene oxide, 1,3-butadiene and benzene. We are implementing measures to reduce the emissions of these six substances.

● Reduction of air pollutants emissions

Nippon Soda promotes the reduction of emissions of sulfur oxide (SO_x), nitrogen oxide (NO_x), and soot and dust. Emissions of these substances from stationary sources are controlled under the Air Pollution Control Act.

● Actions to conform to the Fluorocarbons Emission Control Act

To comply with the Fluorocarbons Emission Control Act, we implement periodic inspections by those with expertise, simplified inspections by the Inspection Manager, measures to prevent fluorocarbon emissions, and other required activities at one worksite at a time.

● Reduction of emissions of harmful substances to water

Nippon Soda has made its voluntary standards stricter than the national regulatory values and the standard values agreed with local municipalities. Based on these strict values, we manage water quality through the monitoring of pollutants and purification at the wastewater treatment plant. Through these efforts, we have reduced emissions of BOD¹ and COD².

We will continue our efforts to strictly control and maintain water quality.

1. BOD (biological oxygen demand): The amount of oxygen consumed by organic substances in water when they are decomposed by microorganisms. It is used as an indicator of the level of contamination of rivers by organic substances.
2. COD (chemical oxygen demand): The amount of oxygen required to oxidize organic substances in water. It is used as an indicator of water quality.

[> Environmental Data](#) 

Preservation of biodiversity

Nippon Soda has taken measures to reduce environmental impacts, use water resources effectively, and prevent the pollution of air, water, soil and others mainly in areas where our production sites are located. In recent years, we have included biodiversity preservation in our priority issues and, in order to address this issue, each worksite has been implementing viable activities.

● Breeding of *medaka* originating from the Sakawa river system (Odawara Research Center)

Medaka was a common species in the past in paddy fields, rivers and ponds throughout Japan. Recently, however, its population has drastically decreased due to environmental change. The *medaka* is now classified by the Ministry of the Environment as a Category II endangered species.

The only natural habitat of *medaka* in Kanagawa Prefecture is in Odawara City. *Medaka* inhabiting this area are precious in that it has been proven that their genetic composition has hardly changed from the past to the present. Odawara City in 1999 launched the “*Medaka-no Otosan Okasan Sato-oya Seido*” (“*Medaka Foster-parent Program*”), under which the city has been promoting conservation of *medaka*.

Odawara Research Center joined the program in 2017 and has been engaged in breeding *medaka*. Thanks to its efforts, the population has steadily increased to numbers sufficient to allow offspring to be returned to Odawara City this summer.



Breeding of *medaka* of the Sakawa river system

Process Safety & Disaster Prevention/BCP

The Nippon Soda Group places emphasis on ensuring process safety and preventing disasters in order to prevent major accidents at its facilities and continue safe and stable production. We are also constantly improving our business continuity plan (BCP) to make sure we can keep providing products and services.

Basic concept

- Periodic inspections, ongoing repairs and renovations, and training for operators at each manufacturing site
- Improvement of our risk management system through emergency drills and education to prepare employees for possible accidents and disasters
- Safety reviews by our internal experts to verify safety when facilities are newly constructed or renovated; Regular diagnoses of our disaster prevention capability conducted by external specialists
- Regular review and improvement of our business continuity plan (BCP), which is designed to help us be prepared for natural disasters such as large-scale earthquakes and other emergencies that could result in extensive damage

Process safety and disaster prevention

Risk management

● Risk assessment of process safety and disaster prevention

We conduct risk assessments of facilities, machines and manufacturing processes. Identified risks are prioritized and, accordingly, measures to ensure the safety of facilities are implemented and inspections are conducted.

● Establishment of an emergency risk management system

We give the highest priority to preventing accidents and disasters. To prepare for unavoidable accidents and disasters, we have established an emergency risk management system and conduct periodic drills and exercises to maintain the system in a sound condition.

● Standards on Emergency Response

The Standards on Emergency Response have been developed to ensure prompt and appropriate communication, response and instruction in the event of a disaster or accident. The Standards on Emergency Response are periodically reviewed and revised. Their effectiveness is confirmed in training drills.

Safety management

● Safety audit to confirm the safety of plants

To ensure the safety of processes in the construction and renovation of facilities, the Nippon Soda Group undergoes safety reviews and audits by managers and internal experts for the inspection of facilities and operations in terms of safety, work environment, quality and other factors.

Facilities of group manufacturing companies undergo periodic CSR audits to assess the management conditions of manufacturing facilities. Assessment results have been incorporated into activities to improve process safety and disaster prevention.

Safety audits prior to trial operation by the Head Office

1) Nihongi Plant November 6, 2017

Safety audit prior to trial operation in the process of renovating a pharmaceutical additive reactor

Renovation of the reactor used for manufacturing pharmaceutical additives was undertaken. As a result of documentary and on-site audits, 40 safety issues were identified. After addressing all of these issues, we successfully completed the trial operation.



2) Chiba Plant of Nisso Metallochemical Co., Ltd. November 15, 2017

Safety audit prior to trial operation in the process of renovating a product drying tower

This was a renovation of the drying tower for existing products. As a result of documentary and on-site audits, 31 safety issues were identified. After addressing all these issues, we successfully completed the trial operation.



3) Takaoka Plant December 17, 2017

Safety audit at the Head Office prior to trial operation in the process of constructing manufacturing facilities for electrolyte additives

This was a project to construct facilities for the manufacture of new electrolyte additives. As a result of documentary and on-site audits, 37 safety issues were identified and addressed. We will continue trial operation until June 2018.



4) Nihongi Plant March 6, 2018

Safety audit at the Head Office prior to trial operation in the process of construction to control fine powder of existing products

This was a project to increase the production of existing products. As a result of documentary and on-site audits, 23 safety issues were identified. After addressing all these issues, we successfully completed the trial operation.

**● Diagnosis of disaster prevention capabilities by a third party**

The disaster prevention capabilities of Nippon Soda and manufacturing group companies are diagnosed by SOMPO Risk Management & Health Care Inc.

Education and drills for disaster prevention

Nippon Soda provides employees with various kinds of educational and training programs on process safety and disaster prevention for different work assignments to help them acquire knowledge and skills to ensure process safety.

To achieve the target of “no major accidents at facilities,” we will continue to promote efforts to improve activities that are aimed at ensuring process safety and disaster prevention.

● Group training

Each worksite and each department periodically provide their staff members with education and training based on the Action Plan to maintain CSR. For newly employed personnel assigned to manufacturing jobs, the Nisso Takaoka Academy provides educational programs dedicated to new employees. These educational programs include hands-on training on safety and basic on-site work.



“Nisso Takaoka Academy” experiential learning on hazards
(On May 11, 2017 at Takaoka Plant)



“Nisso Takaoka Academy” experiential learning on hazards
(On May 11, 2017 at Takaoka Plant)



Training on how to handle respirators
(On February 7, 2018 at Takaoka Plant)



Safety education on tasks of leaders in charge of rooftop snow removal
and on how to handle small-type rotary snow plows
(On January 10, 2018 at Nihongi Plant)

● Disaster prevention system involving local communities

Each Nippon Soda site implements regular disaster drills, which include drills conducted in cooperation with other nearby plants and local governments. These drills are conducted by taking into account the environment and other characteristics unique to each region so that they can be applied in real settings.



Comprehensive emergency drill
(Odawara Research Center, May 23, 2017)



Comprehensive emergency drill
(Chiba Research Center, May 24, 2017)



FY 2018 spring emergency drill
(Nihongi Plant, June 30, 2017)



Autumn comprehensive plant emergency drill
(Takaoka Plant, November 14, 2017)



Joint emergency drill
(Mizushima Plant, November 21, 2017)



2nd drill to address environmental abnormalities
(Takaoka Plant, November 28, 2017)



Comprehensive emergency drill (Staff in charge of FC1) at night and on weekends and holidays
(Chiba Plant, February 22, 2018)



Evacuation drill, preparation of a makeshift bed
(Chiba Research Center, March 19, 2018)



41st training on how to put on a respirator (finished in 7th place)
(Chiba Plant, October 12, 2017)

Emergency drills conducted (FY 2018)

	First half (dates of drills conducted)	Second half (dates of drills conducted)
Nihongi Plant	Spring plant emergency drill (June 30) Drill for reporting a high-pressure gas leak to the disaster prevention office to prevent disasters (July 25) Emergency communication response training (August 31)	Joetsu City Nakago-ku emergency drill (November 15) Drill for reporting a high-pressure gas leak to the disaster prevention office to prevent disasters (February 15)
Takaoka Plant	Spring comprehensive plant emergency drill (June 13)	Autumn comprehensive plant emergency drill (November 14)
Mizushima Plant	Sandbag stacking drill (May 30) Power outage drill (July 7) Toxic substance spill drill (July 21) Emergency drill for accidents during product transportation, conducted jointly with Okayama Tsuun (September 13)	Toxic substance spill drill (October 17) Joint emergency preparation drill (November 9) Joint emergency drill (November 21) (Joint drill with public firefighters, a joint disaster response unit, and the Mizushima Plant Disaster Prevention Team) New Year's firefighting training by the Mizushima Plant Disaster Prevention Team (January 11) Toxic substance spill drill (February 8) Risk management training (February 9) Toxic substance spill drill at night (March 12)
Chiba Plant	Comprehensive plant emergency drill (May 24) (Joint worksites, Chiba Plant Disaster Prevention Team alone) Drill to simulate the operation of the on-site command headquarters (July 25) Disaster prevention drill to be prepared for disasters at night and on weekends and holidays (August 22) (Chiba Plant Disaster Prevention Team alone) Disaster prevention drill to be prepared for disasters at night and on weekends and holidays (September 15) (Joint worksites, Chiba Plant Disaster Prevention Team alone) Emergency communication drill (June 16, August 25, September 11 and 12)	Joint rescue drill with public firefighters and a joint disaster response unit, water flow drill (October 24) Drill to address environmental abnormalities (October 27) Daytime comprehensive emergency drill (December 14) (Joint drill with public firefighters, a joint disaster response unit, and the Chiba Plant Disaster Prevention Team) Disaster prevention drill to be prepared for disasters at night and on weekends and holidays (February 22) (Joint drill with public firefighters, a joint disaster response unit, and the Chiba Plant Disaster Prevention Team) Evacuation drill (for tsunami) (March 19) Emergency communication drill (November 14, January 6)
Odawara Research Center (Odawara)	Comprehensive emergency drill (May 23)	Department emergency drill (Five departments in total, each separately conducted, October to December)
Odawara Research Center (Haibara)	Emergency drill (July 31)	Comprehensive emergency drill (December 1)
Odawara Research Center (Bandai)	—	Emergency drill (November 27)
Chiba Research Center	Comprehensive plant emergency drill (May 24) Disaster prevention drill to be prepared for disasters at night and on weekends and holidays (August 24, September 15) Emergency communication drill (April 24, August 8) Research Center emergency drill (on the assumption of power outage, by each department in September)	Daytime emergency drill (December 14) Disaster prevention drill to be prepared for disasters at night and on weekends and holidays (February 22) Emergency communication drill (December 11) Evacuation drill (for tsunami) (March 19)
Head Office		

Accidents at facilities (fires, etc.)

The following is a summary report on two fires and one instance of white smoke emission that occurred at Nisso Fine Co., Ltd. in FY 2018:

1. Isohara Plant of Nisso Fine Co., Ltd.: A fire caused by pyrophoric substance

- (1) Brief description: On September 20, 2017, a connecting pipe to which a small amount of pyrophoric material was attached was removed at an agrochemical intermediate manufacturing facility. To inactivate the combustible property of the pyrophoric material attached to the removed pipe, a metal container (50-liter capacity, made from SUS, with a lid) containing about 15 liters of methanol in which to soak the pipe was prepared. When the pipe was lowered closer to the surface of the liquid methanol, spontaneous combustion occurred and the methanol caught fire. The fire was immediately put out with an extinguisher. After the fire was extinguished, the accident was reported to the Prevention Section of the Fire Station and measures to prevent recurrence were taken.
- (2) Human casualties: None
- (3) Damage to facilities: None
- (4) Cause: Because about 15 liters of methanol was used in an open system to inactivate the combustible property of the small amount of pyrophoric material attached to the pipe, spontaneous ignition occurred and the methanol caught fire.
- (5) Recurrence prevention measures: Under instructions from the relevant authorities, the plant reviewed the procedure to inactivate the combustible property of pyrophoric materials. As a result, it was decided to use steam instead of flammable methanol. The improved procedure was standardized. To prevent recurrence, educational sessions on the standardized procedure were provided to ensure that all employees are fully informed of the standardized procedure.

2. Isohara Plant of Nisso Fine Co., Ltd.: A fire at a drainage pit

- (1) Brief description: On October 2, 2017, periodic repair work was carried out at the facility. About 30 minutes after two workers from a repair contractor started welding, orange flames flared up from the opening of the drainage pit adjacent to the repair site, and the sound of an explosion was heard. The fire was immediately put out at an early stage with an extinguisher and other equipment. The accident was reported to the Firefighting and Prevention Department.
- (2) Human casualties: None
- (3) Damage to facilities: Damage to the drainage pit cover
- (4) Cause: Combustible gas, which was generated from a combustible hazardous substance that was mixed in with the wastewater in the drainage pit, was ignited by sparks created during the welding process.
- (5) Recurrence prevention measures: Under instructions from the relevant authorities, the plant reviewed the process and improved it in such a way as to prevent a combustible hazardous substance from being mixed into wastewater. After confirming that there is no possibility of similar accidents being caused at other facilities of Isohara Plant as well as those of any Nippon Soda Group companies, we have shared the information among worksites.

3. Koriyama Plant of Nisso Fine Co., Ltd.: Release of white smoke

- (1) Brief description: On October 26, 2017, waste (distillation residue) generated at an agrochemical intermediate manufacturing facility was extracted into two 200-liter metal barrels and stored in the building of manufacturing facilities. At around 17:30, about two hours after the extraction, an employee saw white smoke coming out from the building and reported it to a fire station. The firefighters stopped the white smoke by cooling the barrels with water.
- (2) Human casualties: Two neighboring residents consulted a doctor for throat and eye soreness but no abnormalities were observed. No casualties involving employees (including staff members of affiliated companies) were reported.
- (3) Area damage: Due to white smoke drifting along railroad tracks of the East Japan Railway Company, four trains on the Suigun Line and Tohoku Main Line were cancelled and eight trains were delayed for up to 85 minutes.
- (4) Damage to facilities: None
- (5) Cause: It is a rule that waste to be extracted into a metal barrel should be cooled ($\leq 80^{\circ}\text{C}$) beforehand. The responsible personnel failed to comply with this rule and extracted waste without cooling it down (at 125°C), gradually causing an exothermic reaction and raising the temperature in the metal barrel. As a result, a severe decomposition reaction occurred, causing a large amount of white smoke.
- (6) Recurrence prevention measures: Under instructions from the relevant authorities, the plant improved the facility in such a way that waste cannot be extracted before cooling ($\leq 80^{\circ}\text{C}$). The plant also reviewed its work standards, check sheet and risk assessment process, and have provided employees with education on relevant issues to prevent recurrence of similar errors.

Business Continuity Plan (BCP)

● Basic concept of the BCP (business continuity plan)

In the event of a natural disaster such as a large-scale earthquake or other crises that can result in serious damage to our company's worksites, our social responsibility is to ensure the safety of local residents, full-time and temporary employees and affiliate company employees. Based on this concept, the principles of the BCP are defined as follows:

- ① The highest priority is placed on checking on the status and ensuring the safety of Nippon Soda's own employees, affiliate company employees and temporary employees and their families, and ensuring the safety of residents in communities where the company's business sites are located.
- ② The consciousness of serving the public and community is shared among all personnel throughout the company.
- ③ Efforts are focused on protecting the safety of the affected Head Office, plants, research centers, branch offices and sales offices.
- ④ Measures should be taken to establish a system that allows Nippon Soda's employees, affiliate company employees and temporary employees who are engaged in ensuring safety and security to act flexibly and at their discretion according to the circumstances.

● Continuation of supply of products according to customer needs

The BCP of Nippon Soda aims to ensure, in the event of a natural disaster or other crisis, safety as well as the supply of products to customers as requested. To achieve this objective, improvement is accelerated using the PDCA cycle.

Efforts for business continuity

The figure below shows a flowchart of the procedures for continuing business operations.



Disasters and risks covered by the BCP

- ① Earthquake
- ② Typhoon
- ③ Heavy rainfall, flood, tsunami, heavy snowfall
- ④ Storm, tornado
- ⑤ Volcanic eruption
- ⑥ Abnormal conditions of facilities
- ⑦ Influenza, infectious diseases, etc.
- ⑧ A large number of affected employees (their houses and families)
- ⑨ Electric power outage
- ⑩ Suspension of industrial water supply
- ⑪ External communication failure
- ⑫ Computer system failure
- ⑬ Emergency at water discharge destinations
- ⑭ Suspension of the supply of raw materials (including logistics)
- ⑮ Suspension of product distribution
- ⑯ Occurrence of quality problems
- ⑰ Terrorism
- ⑱ Nuclear power accident
- ⑲ Missile attack
- ⑳ Others

Occupational Safety and Health

To provide employees with a workplace environment where they can enjoy working, the Nippon Soda Group is implementing various measures to achieve and maintain the goal of no workplace accidents and promote employees' health.

Basic concept

- Introduction of an occupational safety and health management system (OSHMS); Implementation of risk assessments
- Constant development, implementation, review and improvement of measures (PDCA) to ensure safe and healthy workplaces with the aim of achieving the goal of zero occupational accidents
- Provision of health guidance based on medical examination results and implementation of measures to reduce incidents of personal injury or illness to help employees maintain and improve their health
- As mental health care services, performance of stress tests and provision of consultation services by qualified mental health specialists; Establishment and operation of a system to provide appropriate care

Occupational safety and health

Implementation of risk assessment

Under the occupational safety and health management system (OSHMS), we implement the PDCA cycle to achieve predetermined goals and improve performance systematically.

To integrate OSHMS and RC activities effectively, we also place an emphasis on OSHMS risk assessment. Each office (plant or research center) periodically identifies and assesses occupational accident risks and, if they are not permissible, takes measures to reduce them to permissible levels.

Efforts to prevent occupational accidents

● Activities to reduce occupational accident risks

With our main focus on activity plans under the OSHMS, we identify *hiyari-hat* (near miss) accidents to reduce risks. We also share information on accidents that have occurred at other business sites and companies to help reduce risks. When new plants are constructed and existing ones extended, a safety review and audit are required. Before starting test operation, we reduce accident risks to permissible levels.

● Efforts to prevent human error by workers

The 5Ss—*seiri* (sorting), *seiton* (setting-in-order), *seiso* (shining), *seiketsu* (standardizing) and *shitsuke* (sustaining the discipline)—and the 4 Safety Cycles (KY¹ before starting operation → Pointing and vocalizing during operation → Mutually directing attention during operation → Identifying *hiyari-hat* [near miss] accidents after operation) are the fundamental concepts that form the basis of safety activities for the Nippon Soda Group. In addition, senior management at each business site takes the initiative in promoting safety awareness among employees so that safety activities are improved through the continuous application of the PDCA cycle.

1. KY is a combination of the first letters of two Japanese words, *kiken* (risk) and *yochi* (prediction). The KY system is designed to identify latent risks associated with work and take preventive measures before they occur.

● Occupational health and safety survey by a third party

An occupational health and safety survey of Nippon Soda is conducted by SOMPO Risk Management & Health Care Inc.

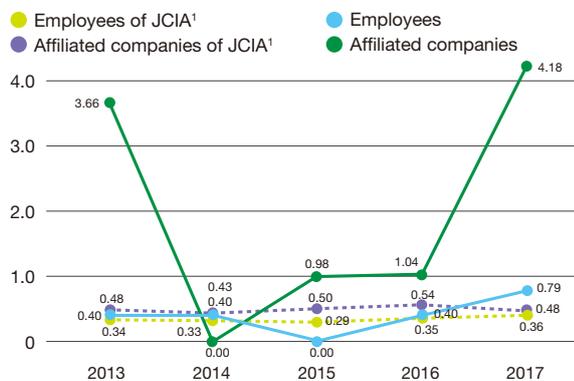
The number of consecutive days and years without an accident resulting in absence from work (as of April 1, 2018), the number of accidents resulting in absence from work of employees (FY 2018)

Worksite	The number of consecutive days without an accident resulting in absence from work (years)	The number of occupational accidents causing an absence from work for FY 2018
Head Office	5,421 days (14 years)	0
Nihongi Plant	415 days (1 year)	0
Takaoka Plant	68 days (0 years)	3
Mizushima Plant	9,277 days (25 years)	0
Chiba Plant	4,982 days (13 years)	0
Odawara Research Center	6,371 days (17 years)	0
Chiba Research Center	9,534 days (26 years)	0
Aizu Plant, Nisso Metallochemical Co., Ltd.	548 days (1 year)	0
Chiba Plant, Nisso Metallochemical Co., Ltd.	11,382 days (31 years)	0
Koriyama Plant, Nisso Fine Co., Ltd.	2,131 days (5 years)	0
Isohara Plant, Nisso Fine Co., Ltd.	682 days (1 year)	0
Onahama Plant, Nisso Fine Co., Ltd.	782 days (2 years)	0
Shin Fuji Kaseiyaku Co., Ltd.	3,774 days (10 years)	0
Nisso Shoji Co., Ltd.	5,419 days (14 years)	0
Sanwa Soko Co., Ltd.	584 days (1 year)	0
Nisso Engineering Co., Ltd.	4,549 days (12 years)	0
Nisso Construction Co., Ltd.	8,651 days (23 years)	0
Nisso Green Co., Ltd.	6,575 days (18 years)	0

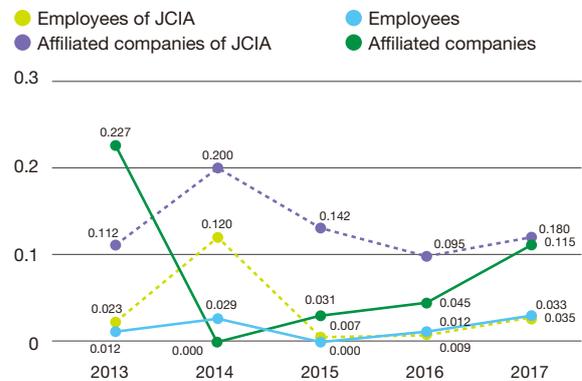
Number of occupational accidents causing an absence from work at Nippon Soda and its affiliate companies
(Numbers reported in one fiscal year starting on April 1 and ending on March 31 of the next year)

FY	2014	2015	2016	2017	2018
Nippon Soda	1	0	1	1	3
Nippon Soda's affiliated companies	3	1	0	2	4
Group companies	0	0	5	3	0
Group companies' affiliated companies	2	1	3	2	1

Change in occupational accident frequency rates



Change in the severity rate of occupational accidents



Occupational accident frequency rate: Casualties/Total working hours (per million hours)
1. JCIA stands for Japan Chemical Industry Association.
The data were collected from January 1 to December 31 of each year.

Severity rate of occupational accidents: Man-days lost/Total working hours (per 1,000 hours)
The data were collected from January 1 to December 31 of each year.

Proactive health management for workers

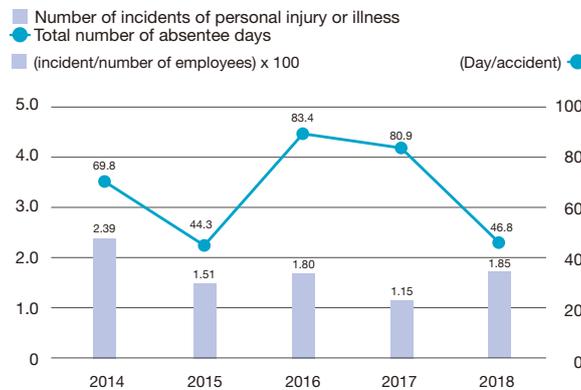
Health and productivity management

In February 2018, Nippon Soda was recognized as a “Health & Productivity Outstanding Entity 2018” in the large enterprise category (White 500) under the recognition program jointly undertaken by the Ministry of Economy, Trade and Industry and the Nippon Kenko Kaigi. This is a program to recognize large enterprises that promote outstanding “health and productivity management.” For recognition, their engagement in addressing health-related issues in regional communities or their health promotion activities that are promoted by the Nippon Kenko Kaigi are assessed.

Recognizing the importance of health maintenance and improvement in business management, Nippon Soda, in cooperation with the Nisso Health Insurance Association and the labor union, promotes efforts geared toward supporting physical and mental health. We support employees and their families in their health management and proactively promote health management so that we can provide better value to the public through business activities conducted by healthy and lively employees.



Change in the number of incidents of personal injury or illness (per 100 persons) and the total number of absentee days (per incident)



Note: The data above were collected from April 1 to March 31 of the next year.

Mental health care

Our mental healthcare program consists of ① Self-care, ② Care by administrators in the workplace, ③ Care by occupational healthcare staff and other specialists at each workplace and ④ Care by external parties.

To help employees with their self-care ① and provide care by occupational healthcare staff and other specialists at each workplace ③, a stress test is conducted once a year. To improve care by administrators in the workplace ②, lectures on mental health given by external specialists are organized.

Consultations with qualified mental health specialists by phone or face-to-face are also available as part of efforts to provide care by external parties ④. In addition, lectures on mental health are provided by an external organization to help employees manage their own mental health.



Lecture session on mental health (Training on care by administrators in workplace at Odawara Research Center)



Lecture session on alcohol and smoking for new employees (Nihongi Plant)

Distribution Safety and Quality Assurance

The Nippon Soda Group promotes efforts to reduce risks associated with the distribution of products to prevent distribution accidents. We also provide an environment where customers can use high-quality products safely, comfortably and in a stable manner in order to increase customer satisfaction.

Basic concept

- Reduction in risks of hazards, toxic harm and in-transit accidents associated with the transportation of products to protect the safety and environment not only of customers but also of workers engaged in distribution processes and/or local residents
- Provision of information that helps customers use high-quality products safely, comfortably and in a stable manner
- Provision of products that increase customer satisfaction, while ensuring safety and hygiene for customers

Distribution safety

Measures to ensure safe transportation of hazardous materials

● Transportation risk assessment

Nippon Soda identifies risks from various viewpoints to prevent workers from being injured and products from being damaged in an accident during the loading, unloading and transshipment of products with a forklift, as well as in traffic accidents during transportation by truck to deliver products to customers. Based on identified risks, we take measures to reduce such accidents.

● Efforts to achieve zero distribution-related complaints

To eliminate distribution-related complaints, we conduct a risk assessment to identify and reduce risks associated with distribution. We also conduct inspections and audits at partner distribution companies and provide them with education, and share relevant information with industrial organizations. In addition, we implement measures targeted at reducing complaints arising due to human error.

● Yellow Card¹ and Container Yellow Card²

Nippon Soda promotes the use of Yellow Cards and Container Yellow Cards mainly for products that are classified in the hazardous category. Product labels are constantly revised to reflect the latest legal information, including revisions to relevant laws, in a timely manner. We use wording that complies with the GHS requirements and appropriate pictograms and take other measures so that we can be prepared in the event of a disaster to respond quickly to prevent damage from spreading.

1. A Yellow Card is an emergency information card with information about procedures that drivers, fire and police personnel, and other concerned parties should take in the event of a spill, fire, explosion or other safety incident that may occur during transport. It also contains emergency contacts. The issuance and carrying of Yellow Cards is required by the Poisonous and Deleterious Substances Control Act and other laws.
2. A Container Yellow Card is a label that is affixed to containers. It indicates the United Nations number and guide number defined by the Emergency Response Guidebook in addition to other information.



Example of a combined label
The guide number and the United Nations number are printed at the bottom of the Container Yellow Card.

Distribution safety in value chains

● Proposals for improvement of customers' facilities

If there are any safety problems with regard to transportation workers and workers at facilities where our products are received or any risks such as potential for the mixing of foreign substances or spills, Nippon Soda makes a proposal for improvement to the customer in order to prevent disasters and accidents.

Quality assurance

Efforts to ensure quality management

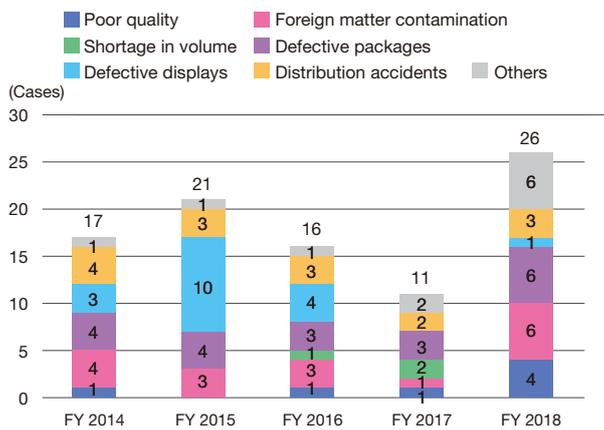
● Quality risk assessment

Nippon Soda assesses quality risks so as to prevent quality complaints from occurring and recurring. We identify quality-related risks at each manufacturing site. Our continuous efforts to reduce risks are particularly focused on reducing those ranked A to B, which have the highest risks.

Efforts to achieve zero product-related complaints

To eliminate product-related complaints, we conduct quality risk assessments to identify and reduce risks. We also implement measures to reduce product-related complaints arising due to human error, including providing education on the prevention of human error to employees.

Change in the number of product-related complaints



Chemicals and Product Safety

Giving due consideration to potential risks and toxicity of chemicals and products on the environment, safety and health, the Nippon Soda Group complies with laws, regulations and international standards as well as with social norms and expectations so that we can earn greater trust from the general public.

Basic concept

- Compliance with domestic laws and regulations, international standards, treaties and the like, giving due consideration to impacts caused by risks and toxicity of chemicals and products on the environment, safety and health
- Compliance with social restrictions that are not covered by law to maintain and ensure trust from customers and the general public
- Implementation of specific measures to ensure the safety management of chemicals, including activities and periodic educational programs regarding chemicals and product safety

Safety of chemicals

Strengthened management of chemical substances using ExESS, a chemical substance control system

We are strengthening the management of chemical substances using the SDS¹ and Yellow Card preparation and management system (ExESS).

We revise SDSs and Yellow Cards whenever relevant laws are amended in Japan and overseas. We prepare SDSs and product labels that are used not only in Japan but also in other countries and regions around the world, such as Europe, the U.S., China, Taiwan, South Korea, Southeast Asia and Turkey, in such a way as to meet the GHS² requirements.

Regular training programs on chemical substance control

We provide employees who handle chemical substances with education on how to comply with Japanese and overseas laws and regulations regarding the management of chemicals.



Educational session for new/transferred employees on chemical substance laws and regulations (May 9, 2017 at the Head Office)



Explanatory session on revision of laws and regulations (February 20, 2018 at the Head Office)

Product safety

Actions to comply with laws and regulations

● Actions to comply with foreign laws and regulations

We provide explanatory sessions on how to comply with the EU REACH³ regulation and other overseas laws and regulations. We also conduct audits of poisonous and deleterious substances at branches and offices of our company and group companies.

● Audits of poisonous and deleterious substances at offices

Auditing of poisonous and deleterious substances at offices was discontinued after the FY 2011 audit but resumed in FY 2017. The audits in FY 2017 were conducted at offices in eastern Japan and, in FY 2018, in western Japan. We will conduct audits on a regular basis.

Communication of safety information on chemicals

The Nippon Soda Group participates in the GPS/JIPS⁴. We have prepared safety summary reports on five substances, including caustic soda and hydrochloric acid, which have been registered on the ICCA⁵ portal page and made publicly available.

1. SDS: A Safety Data Sheet (SDS) is a document that contains information on chemical substances, product names, suppliers, hazardous and toxic properties, safety measures, emergency responses, etc.
2. GHS: The Globally Harmonized System of Classification and Labelling of Chemicals (GHS), which was developed and agreed upon by the United Nations Economic and Social Council, is a system for the international standardization of classification and labeling (product labels and SDSs) regarding risks and toxicity of chemicals.
3. REACH: The Registration, Evaluation, Authorization and Restriction of Chemicals is a European Union regulation that requires companies that manufacture or import into the EU chemical substances in the amount of one ton or more per year to register these substances and submit chemical safety reports. Chemicals for which data are not submitted (substances that are not registered) are not permitted to be put on the market.
4. GPS/JIPS: The Japan Initiative of Product Stewardship (JIPS) is a voluntary initiative of the chemical industry. Its basic concept is aligned with the Product Stewardship (PS)/Global Product Strategy (GPS) of the International Council of Chemical Associations (ICCA).
5. ICCA: International Council of Chemical Associations

Consideration in animal experiments

Efforts to ensure animal welfare

Scientific use of animals is indispensable for advancing life science and developing agrochemicals and other materials. In such scientific use of animals, due consideration should be given to the fact that animals are living beings. In this context, within the extent that the purpose of scientific use can be attained, it is necessary to use alternative methods to the use of animals as much as possible (replacement), reduce the number of animals used for such use as much as possible with consideration given to the appropriate use of animals (reduction), and minimize the pain and distress of animals as much as possible within the limit necessary for such use (refinement). To fulfil these conditions, it is necessary to consider physiology, ecology, behavior and other characteristics of animals and to appropriately breed, keep and use them for scientific purposes with a feeling of gratitude and responsibility toward them. These aforementioned requirements are stipulated in the Act on Welfare and Management of Animals and the Standards relating to the Care and Keeping and Reducing Pain of Laboratory Animals, which was issued by the Ministry of the Environment.

Odawara Research Center of Nippon Soda established its own regulations for animal experimentation and other relevant standards based on the abovementioned act and standards as well as the Basic Policies for the Conduct of Animal Experimentation in Research Institutions Stipulated by the Ministry of Agriculture, Forestry and Fisheries, and the Guidelines for Proper Conduct of Animal Experiments issued by the Science Council of Japan. The regulations define the responsibilities of the General Manager of the Odawara Research Center and the Animal Experiment Committee.

Odawara Research Center breeds, keeps and uses experimental animals for scientific purposes in compliance with its regulations on animal experimentation and other relevant standards in such a way as to ensure objectivity and transparency as needed and the use of appropriate methods in terms of the welfare and management of animals. Staff members are provided with instructions regarding compliance with the regulations for animal experimentation and other standards by the Animal Experimentation Committee under the supervision of the General Manager of the Odawara Research Center. The committee also ensures that all staff within the research center are properly informed of the regulations for animal experimentation and other standards, and conducts audits and inspections of facilities. These activities are assessed by an external organization (the Japan Health Sciences Foundation) and, in June 2018, the research center was accredited as a facility that conducts animal experiments in a proper manner.



CERTIFICATE

Odawara Research Center
Research & Development Div.,
Nippon Soda Co.,Ltd.

This certifies that

The laboratory animal facilities of the
aforementioned institution
are compatible with
the "Basic policies for the conduct
of animal experimentation
in the Ministry of Health,
Labour and Welfare"
stipulated by the Ministry of Health, Labour and
Welfare
based on the assessment by
the Center for Accreditation of Laboratory
Animal Care and Use,
Japan Health Sciences Foundation.

Certification number: 18-133
Certification date: June 8, 2018
Valid until: June 7, 2021



Teruo Takayanagi
Director
Japan Health Sciences Foundation

Together with Our Customers (Consumer Issues)

The Nippon Soda Group identifies products with functions that satisfy our customers, and makes efforts toward ensuring safety during the use of our products.

Basic concept

- Provision of safe and reliable products and services that satisfy customers' needs
- Working together with our customers in continuing to create new value that is sought after by society, through development and provision of products

Improve customer satisfaction

Services by the customer consultation office (Agro Products Division)

The regional salespersons and the section handling inquiries at our Head Office appropriately answer inquiries made on the usage of our products and agrochemicals. We have placed persons in charge of answering customer inquiries within our Public Relations Section of our Product Promotion Department. Inquiries are answered under the motto of providing "swift, accurate and easy-to-understand answers."

Requests and inquiries received from customers are input into our in-house database and the information is shared with our plants, research centers and sales departments. Based on this information, we improve our products and expand the scope of application of our agrochemicals. With regard to complaints about product quality and requests for quality improvement, efforts are made to prevent recurrence and to make improvements for each individual product.

Sales promotion activities with our customers in mind (Chemicals Business Division)

We exhibit actively at trade fairs and other venues, and seek opportunities to have discussions with our customers, so that our products will be considered by more buyers.

Promotion activities rooted in the local community (Agro Products Division)

We visit contracted wholesalers, agricultural co-ops and farmers in Japan to introduce our products and explain the appropriate methods of use. Outside of Japan, we host seminars on our products and the appropriate methods of use for local stores and farmers and invite them to visit agricultural fields where our products are used.

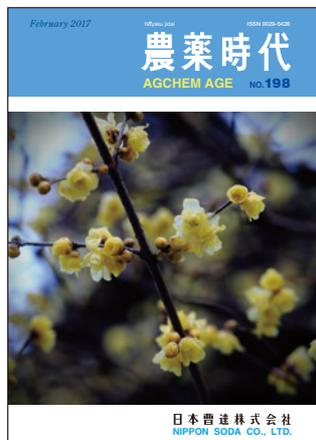


Educational session on Monsieur Bordeaux (April 2017, Kagoshima)

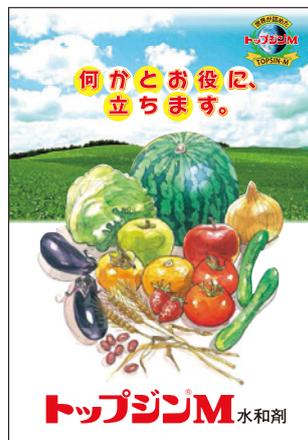
Communication with our customers

Sending out information to our users (Agro Products Division)

In response to various kinds of inquiries from our customers, we provide information on registered agrochemicals and the expansion of their scope of usage in a timely manner, while complying with the Agricultural Chemicals Control Act and other related laws, rules and regulations.



Technical informational magazine,
AGCHEM AGE



Informational tools

Safe usage (Chemicals Business Division)

NISSO HI-CHLON, an inorganic solid chlorine agent, is used to disinfect swimming pools at schools and other places. To ensure that HI-CHLON is being used properly, we visit schools using the product with our sales agents to explain proper handling methods. We also contribute to a website called "gakkoupool.com" to provide information needed for managing school pools. We will continue our efforts to develop even better products through direct communication with school officials.



Gakkoupool.com, a website that provides information needed for managing school pools

Development of products that are useful to society

Responding to the requests of our customers (Chemicals Business Division)

NISSO-HPC (hydroxypropyl cellulose) is used widely throughout the world as an additive that is essential for formulating pharmaceuticals. Since its launch in 1969, we have been continuing to respond to the needs of pharmaceutical companies, who are our customers. As a result, we now offer 13 different grades of NISSO-HPC with different viscosities and particle sizes.

And right now, we are aggressively promoting research and development for enhancing the functionality of pharmaceuticals, both in and outside of Japan, by working with our customers to develop a new grade that is in line with

our customers' needs, and by maintaining NISSO-HPC's status a frontline product in pharmaceutical formulation.

The safety and high functionality of NISSO-HPC also makes possible its use in food processing. Thus, we have recently begun providing it in the food market under the brand name CELNY. This product is attracting particular notice from the nutritional supplement industry as it demonstrates particularly high functionality in incorporating large dosages of such substances as turmeric, glucosamine and mulberry leaf, which are notoriously difficult to make into pills, into tablets made from natural ingredients. This ability is helping to reduce the amount of supplement tablets that need to be taken in one day.



HPC

Together with Our Employees (Human Rights/ Labor Practices)

Nippon Soda Group focuses its proactive efforts on creating a work environment where human rights are respected, and all employees can find their work meaningful and maximize their abilities.

Basic concept

- Respect for the dignity and human rights of all people
- Understanding the diversity of cultures, customs, and values and no tolerance for actions that result in discrimination
- Creation of a workplace environment where employees can feel comfortable and fulfilled through our proactive review of personnel and employment systems to ensure the constant improvement of working conditions
- Becoming a company where a diverse team of employees can play an active role with particular emphasis on promoting diversity and improving employee satisfaction

Nippon Soda Group's human resources development

It is our mission to make Nippon Soda a company where people gather and grow together in order to continue to achieve our sustainable growth. We believe that professional development is the key to a strong human resources foundation. In addition to on-the-job training, our educational and training programs include rank-based training, manager training, early- and intermediate-phase practical training, and specialized training by job function. We also provide training for self-development, including programs to improve language proficiency and acquire qualifications, as well as many other various kinds of training programs.

Educational programs (rank-based training)

1. Position G: Management Assistant, Position M II: Manager II, Position M: Manager, Position D: Assistant Manager

Rank	Rank-based training	Training for Line Manager	Core positions		Self-development support	
			Administrative work	Specialized work		
Executives	Executives training					
Managers	Position G training ¹	Position M II training ¹	Division Managers training	Introduced in FY 2018	e-Learning Correspondence training Language training	
	Position M training ¹		Department Managers training			Career Training (Management)
Assistant Managers	Position D training ¹		Section Managers training	Career Training (Advanced)		Aptitude assessment interview
Staff employees				Career Training (Basic)		Discussion training
New employees	Orientation training			Follow-up training		
				On-site practical training	Tutor instructions	

Promotion of diversity

Development of diversity policy

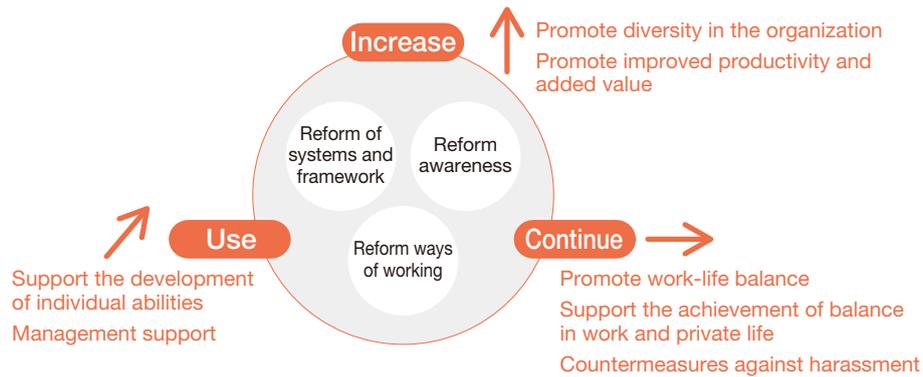
The aim of our Diversity Policy is to develop ourselves by providing diverse people, regardless of gender, age, nationality and presence or absence of disability, with opportunities to gather and exchange different ideas.

● Diversity policy

Nippon Soda considers it necessary for a corporate group to value diversity in order to generate new innovations and increase global competitiveness. In this context, we recognize the promotion of diversity as an important management strategy.

Efforts to promote diversity include transformation of our personnel systems to make full use of our diverse human resources, improvement of the corporate culture and work environment, and implementation of other basic support systems. Through these efforts, we aim to become a company where global-minded, motivated, competent employees can enjoy working and continuously grow and develop regardless of gender, age, nationality, etc.

Three pillars of promoting diversity



Major activities in FY 2018

Use Introduction of the Career Development Support System

● Objectives

- To increase each individual's motivation to take on challenges and help achieve their autonomous career development through respecting their aptitudes and personalities and supporting their growth
- To maximize the organizational capacity through the proper assignment of employees according to their growth

- Career training was provided to managers and employees in their 20s and 30s. (June–August 2017)
- The career vision sheet was developed.
- Communication between supervisors and subordinates was promoted. (August and September 2017)
- Career interviews were conducted. (February and March 2018)

Continue Continuous publication of articles on diversity-related issues in in-house newsletters (since November 2016)

- Harassment prevention training (all year)
- Lectures on work-life balance in various kinds of rank-based training (all year)
- Measures to promote the taking of paid holidays were implemented at each site.

Increase Diversity training, harassment training (February 2018)

- Diversity employment was promoted. (all year)



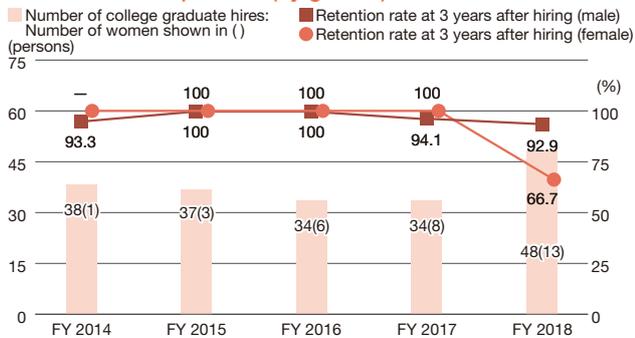
Career training

Acceptance of diversity

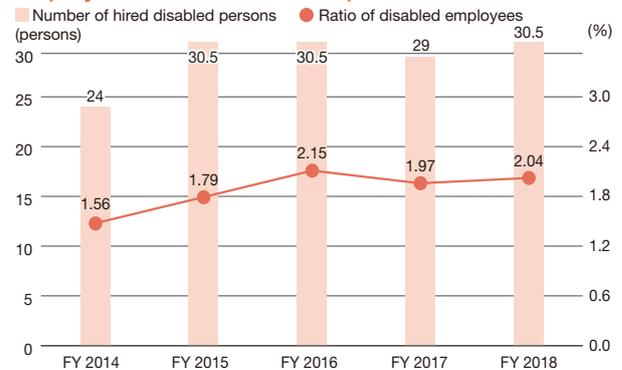
We place emphasis on employing diverse candidates regardless of gender, age, nationality, ability or disability, and regardless of whether they are new graduates or mid-career hires, so as to create a more diverse organization. A group consisting of people with different values should give its members the impetus to broaden their outlook and change their viewpoint.

Workplace diversity training programs designed for directors and executive officers, as well as other specific positions, with the aim of raising their diversity awareness are provided to help them recognize diverse values and to empower individuals and organizations.

Number of hired persons (by gender) and their retention rate



Employment rate of disabled persons



Promoting work-life balance

We are working to create a workplace environment where our employees can continue working despite various lifestyle changes in their lives, such as in relation to giving birth to a child, raising a child, and providing nursing care for ailing family members. We are revising our work regulations and advancing working style reforms in order to create a workplace where our employees can pursue their work without compromising their health, and achieve a good balance between their work and private lives.

Changes made in FY 2018

● Revision of the working regulations (January 1, 2017)

- After using childcare leave, if there are special reasons such as no availability of daycare centers, a parent is entitled to additional childcare leave of up to one year before the end of the fiscal year when the child turns four years old.
- A male employee is entitled to paid paternity leave of up to five days, for the purpose of encouraging male employees to take childcare leave.
- The reasons for using unused days of paid leave after its expiration have been expanded from personal injury or illness alone to child care, long-term care, fertility treatment, volunteering and other activities.

> The General Employer Action Plan based on the Act on Advancement of Measures to Support Raising the Next Generation of Children

Change in the number of employees who took child/family care leave

FY	Those who took child care leave (person)		Those who took family care leave (person)	
	Men	Women	Men	Women
2014	1	6	0	0
2015	0	6	0	0
2016	1	2	0	0
2017	2	3	1	0
2018	3	4	0	0

Change in the number of employees who took maternity/child care leave and the rates of those returning to work and those remaining for three years after returning to work (by gender)

FY	Employees who took maternity/child care leave (employee)		Rate of employees returning to work (%)		Rate of employees remaining with the company (%)	
	Men	Women	Men	Women	Men	Women
2014	1(1,151)	7(134)	100	100	—	50
2015	0(1,144)	5(137)	—	100	—	83.3
2016	1(1,137)	2(142)	100	100	100	100
2017	2(1,138)	3(152)	100	100	100	100
2018	3(1,130)	6(159)	100	75	100	100

The numbers were counted at the first fiscal year of the leave.

The numbers in brackets are the total numbers of men and women respectively at the end of each fiscal year. Retention rate is for employees who in this fiscal year are in their third year since returning to work.

Total annual working hours per employee

Normal working hours (hours)	Early start and overtime hours (hours)	Holiday overtime hours (hours)	Paid annual leave days taken (days)	Various kinds of leave days taken (days)	Total annual working hours per person (hours)
1,825.1	130.1	9.1	15.0	1.8	1,763.9

Efforts to protect human rights at workplaces

The Nippon Soda Group Code of Conduct, which sets out the requirements that all employees of the Nippon Soda Group must follow, clearly states the commitment to respect human rights and nondiscrimination and declares that we respect the individuality and personal characteristics of every employee and do not take any action that would result in discrimination. To maintain a healthy work environment free from harassment, we provide employees with rank-based training on relevant issues. A harassment complaints office is also available.

Improving employee satisfaction

We conduct employee satisfaction surveys for the purpose of creating rewarding workplaces that all Nippon Soda employees can be proud of. The objective of the survey is to help us understand how employees feel about working for the company and the specific conditions of their workplaces, and to identify issues that need to be addressed in order to create environments where they can work with vitality. Identified issues are addressed by implementing appropriate measures so as to increase our employees' job satisfaction.

● Measures to maintain health

Nippon Soda conducts various initiatives related to health management and promotion in order to ensure our employees work with healthy bodies and minds.

Physical health

We implement health programs jointly with the corporate health insurance society. Specifically, we offer various programs in partnership with industrial physicians, such as specified health checkups, specified health guidance, and checkups for lifestyle-related diseases.

Psychological health

Nippon Soda had been providing all employees with a stress check even before the revision of the Industrial Safety and Health Act in 2015.

● Labor-management relations and improvement of working conditions

Basic working conditions are determined by labor agreements concluded between the company and the labor union and renewed every year. Under the motto of "dialogue rather than negotiation," we gain an understanding about how our employees are feeling, and create an environment where we are able to engage in labor-management discussion of frontline problems and issues as they are happening.

Number of labor union members (Nippon Soda)

FY	The number of labor union members (person)	Average age (years)	Average length of service (years)	Rate of members (%)
2014	856	40.9	19.9	65.5
2015	845	40.6	19.3	65.0
2016	844	40.4	18.9	64.8
2017	820	39.3	17.6	63.3
2018	824	37.9	15.8	62.7

Together with Our Business Partners

(Fair Operating Practices)

The Nippon Soda Group promotes sound business activities that are fair and just by conducting dialogue and awareness-building activities with our business partners in order to comply with legal requirements.

Basic concept

- Establishment of a purchasing policy that is predicated upon interacting with our business partners with dignity and integrity and handling affairs in a fair and just manner
- Promotion of business activities that meet stakeholders' expectations in purchasing activities, such as raw material procurement

Efforts in procurement

● Compliance with the code of conduct

We established the following code of conduct with business partners from whom we make purchases, and are striving to comply with it.

- When assessing numerous vendors to choose a supplier, we determine the most appropriate business partner by comparing and evaluating such criteria as the following in a fair and just manner: quality, price, delivery period, technical competence and stability of supply.
- When consigning production to a business partner, we enter into a contract and conduct transactions based on a full understanding of the Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors.

● Concept on procurement

We continue our purchasing activities while confirming the safety and soundness of business partners based on information gathered via trading companies from whom we purchase and results of audits conducted in cooperation with the quality management department of each of our plants.

● Purchasing policy

- Conduct purchasing activities grounded in legal compliance
- Execute raw material procurement that contributes toward realizing stable production
- Consider purchase balance aimed at achieving cost reduction
- Develop a stable procurement system rooted in a BCP (business continuity plan), such as having multiple sources from which to procure raw materials
- Realize appropriate inventory management of raw materials
- Participate in in-house and external training programs with the aim of acquiring knowledge on various laws related to purchasing (Antimonopoly Act, Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors, etc.)

● Nippon Soda's responsibilities and approaches

We are working with our business partners to develop relationships that lead to mutual growth by implementing direct and indirect means of gathering information. We are deepening the understanding that our business partners have toward the Nippon Soda Group's purchasing policy and purchasing activities. Through these measures, we continue our efforts to conduct fair, just and sound procurement activities.

Dialogue with our business partners

● Improve awareness on safety and disaster prevention together with our affiliated companies

We provide education on the safe use of agricultural machinery to companies to whom daily operations are consigned at various agricultural fields under the jurisdiction of Odawara Research Center.

In cooperation with our affiliated companies, we are aiming at achieving zero accidents by involving all relevant people. We implement various measures to raise awareness on safety and disaster prevention among employees of affiliated companies who work within our facilities, such as the development of a list that clarifies who has qualifications for operating agricultural machinery and equipment and the management of performance levels.

● Educating transportation firms on distribution safety

The Nippon Soda Group regularly provides education targeting transportation firms. Our educational programs not only provide education to prevent accidents caused by our workers and during transport, but also provide information on past complaints received regarding distribution. We share such information to ensure the safe delivery of our products to our customers.



Educational training on distribution safety

Together with Our Shareholders

The Nippon Soda Group discloses information in a timely and appropriate manner in order to enhance our management transparency and to answer the expectations and trust that we receive from our stakeholders. We are striving to hold constructive dialogues with our shareholders toward realizing continuous growth and to improve our corporate value.

Basic concept

- To maintain constructive dialogues with our stakeholders and investors, which are essential to achieve continuous growth and improve our corporate value over a medium- to long-term period, our President and responsible directors and executive officers are available whenever necessary.
- Information is disclosed in a timely manner, with importance on fairness and accuracy, in accordance with the Timely Disclosure Rules established by the Tokyo Stock Exchange.
- Requests and comments received from our shareholders and investors through dialogues are communicated to our Board Meeting as necessary so that we can reflect them in our management.

Communication

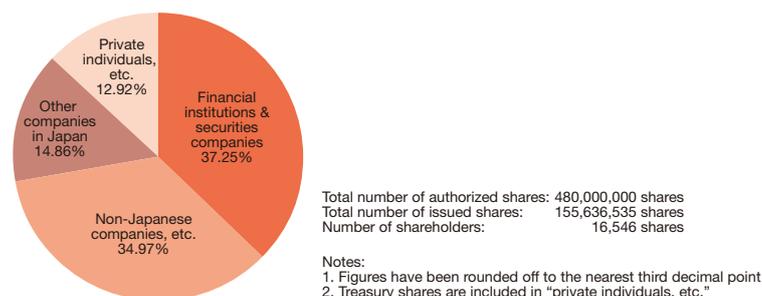
Dialogues with our shareholders

The Nippon Soda Group holds its ordinary general meeting of shareholders in June every year, viewing it as an important opportunity for us to engage in direct conversation with our shareholders.

We deliver the notice of convocation of the general meeting of shareholders at an early date—three weeks before the meeting—in order to help our shareholders acquire a good understanding of the issues that will be reported and the matters for resolution. We also provide pre-delivery disclosure of information on Nippon Soda's website and at the Tokyo Stock Exchange website, before the notice of convocation of the general meeting of shareholders is sent out.

As for the exercise of voting rights, this has been made possible not only in writing but also via the Internet.

We issue our business report (annual report and interim report) twice a year in order to inform our shareholders about the current situation of our company. These business reports are posted on the Nippon Soda website to make them widely available to those other than our shareholders.



Share distribution by type of shareholder (as of March 31, 2018)

Dialogues with investors and analysts

The Nippon Soda Group actively holds dialogues with investors and analysts in order to help them deepen their understanding about our business details and our business performance.

We hold financial results briefings twice a year for institutional investors and security analysts, and also answer their requests for individual interviews. Our President and responsible directors explain in person the performance of the Nippon Soda Group and its growth scenario.

We send our annual reports to institutional investors outside of Japan on an annual basis. In addition, a summary of our financial results is provided in English. Our responsible director visits Europe and Asia to give explanations in person to individual institutional investors in those regions.

The questions and comments received through dialogues with investors and security analysts are input into our in-house database and reflected in the management of our Group where appropriate.

Basic policy on shareholder returns

The Nippon Soda Group makes decisions on profit distribution based on revenue trends and by comprehensively considering such issues as maintenance of stable dividends, enhancement of shareholders' equity, and improving our financial standing. Our basic policy is to provide dividends twice a year, at the middle and end of the fiscal year.

Retained funds are used for improving corporate value, such as by advancing the development of new products and for allotment in growth investment such as M&A and business partnerships, as well as for the continuation and renewal of investments toward stable and continuous growth.

As for return of profits to our shareholders, we strive to provide a stable and continuous dividend distribution with the goal of realizing a total return ratio of 30% based on the shareholders' return policy stated in the new medium-term business plan for fiscal 2018 to fiscal 2020, while also maintaining financial resources for growth investments.

We will also adopt a flexible stance on repurchasing treasury shares as a shareholder return measure to supplement dividends.

$$\text{Total return ratio} = (\text{Total amount of dividends} + \text{total amount of purchase of treasury shares}) / \text{consolidated profit}$$

Together with Our Local Communities

(Community Involvement and Development, Social Dialogue)

We will make efforts to improve the general public's confidence in us by participating in various environmental protection and safety activities and proactively engaging in dialogue with stakeholders regarding the effects of chemical substances on safety, health and the environment.

Basic concept

- Promotion of social contribution activities based on the concept of making contributions through our business toward the development of a sustainable society, from the following viewpoints: contributing to resolving problems pertaining to the global environment; maintaining harmonious relationships with local communities; and contributing to the development of those communities.
- Development of good relationships with local residents through various activities that meet the needs of local communities and that are designed and implemented by each business site and group company.

Harmonious relationships with local communities

● Contribution to local employment

Nippon Soda contributes to creating local employment opportunities through its worksites throughout Japan.

The ratio of the standard minimum wage to the local (prefectural) minimum wage at different worksites in FY 2018 is as shown below:

Comparison of the standard minimum wage to the local minimum wage in FY 2018

Site	Location (prefecture)	Local minimum wage (yen/h)	Our company's standard minimum wage ¹ (yen/h)	Comparison with the minimum wage (%)
Head Office	Tokyo	958	1,101	114.9
Odawara Research Center	Kanagawa	956	1,101	115.1
Chiba Research Center	Chiba	868	1,098	126.4
Nihongi Plant	Niigata	778	1,098	141.1
Takaoka Plant	Toyama	795	1,098	138.1
Mizushima Plant	Okayama	781	1,098	140.5
Chiba Plant	Chiba	868	1,098	126.4

1. Standard minimum wages for the company were calculated based on the starting wages (same for men and women) for those joining the company at the age of 18 in the manufacturing and non-manufacturing groups. Decimal points were rounded off.

● Participation in cleanup activities for local communities

To fulfill its roles and responsibilities as a corporate citizen, we regularly conduct cleanup activities for local communities in the neighborhoods of our worksites. We also actively participate in cleanup activities that are conducted together with people from the local communities, such as eco-walks and cleanup campaigns.

Frequency of cleanup activities for local communities

FY	2016	2017	2018
Nihongi Plant	2	2	2
Takaoka Plant	2	2	2
Mizushima Plant	1	2	2
Chiba Plant & Chiba Research Center	3	3	3
Odawara Research Center	0	1	2

Dialogues with the local communities

● Communication activities at major worksites

Nippon Soda holds local gatherings and regularly offers tours of plants and research centers to residents in areas where its offices are located in order to provide information on CSR activities and receive feedback.

External communication events at major sites (frequency)

FY	Site	Local gatherings	Tours of sites	Local dialogue meeting of the Japan Chemical Industry Association (JCIA) RC Committee	Other
2016	Nihongi Plant	26	1	0	18
	Takaoka Plant	7	41	4	6
	Mizushima Plant	12	0	0	20
	Chiba Plant	0	2	0	19
	Odawara Research Center	2	45	0	8
	Chiba Research Center	0	7	0	0
2017	Nihongi Plant	26	1	0	16
	Takaoka Plant	6	43	1	14
	Mizushima Plant	13	1	2	35
	Chiba Plant	0	2	1	18
	Odawara Research Center	1	49	0	9
	Chiba Research Center	0	2	0	0
2018	Nihongi Plant	25	0	0	16
	Takaoka Plant	6	44	1	77
	Mizushima Plant	15	2	1	40
	Chiba Plant	0	1	0	19
	Odawara Research Center	2	41	0	7
	Chiba Research Center	1	5	0	0

● Dissemination of information on CSR activities

The Nippon Soda Group disseminates information on its CSR activities by the following means: the CSR Report is available to anybody in the form of a brochure or via our website, and reports on activities and plans for activities are submitted to the Japan Chemical Industry Association and distributed at local and other meetings.

Each of our worksites provides information on our activities through regularly offered tours and other gatherings.

● Dialogue with local residents

Regular gatherings are held at where our worksites are located in order to give us an opportunity to hear the opinions of local residents.

● External communication

Takaoka Plant conducts environmental monitoring in cooperation with 12 residents representing six local residents' associations in the vicinity of the plant. In FY 2018, we received five reports, including notices from parties other than these environmental monitors. After addressing all of them appropriately, we provided the reporters with information on how we addressed them, which they understood. Other offices also conduct a similar monitoring program.

The following describes two of the five cases addressed by Takaoka Plant:

■ Report 1

On September 11, the Regional Safety Section of the Takaoka City government received a report from a resident of a community in the vicinity of Takaoka Plant saying, "I smelled something like Dimethyloxide from around 18:35 to 18:45 on Saturday, September 9, but I noticed at 19:05 that the smell was gone." At 13:30 on the same day, we received an inquiry on a similar subject from another person residing in the vicinity of the plant.

Measures and actions implemented

Two staff members of Takaoka Plant visited the reporter's house at 14:00 on September 11 to report to that person that we were conducting an investigation to see if there were any abnormalities at the plant at the time the reporter perceived the odor. On Friday, September 29, the two staff members from Takaoka Plant visited the reporter again to report that "there have been no problems with relevant facilities within the plant or with the operation of the plant" and "no abnormalities were recorded in the odor sensor installed at the boundary of the plant." A request was made to add the then wind direction and speed to the report. On Monday, October 2, the two staffers from Takaoka Plant submitted a written report responding to the inquiry about the odor to the reporter, which was accepted.

■ Report 2

On November 7, the plant received a call from an environmental monitor reporting that there had been an abnormal continuous (beeping) sound coming from the plant since around 22:00 on the 6th.

Measures and actions implemented

Immediately after receiving the call, two staff members patrolled the premises and confirmed an abnormal sound coming from the liquid filling area. They reported the abnormality to the person in charge and asked that person to identify the cause of the sound and take necessary measures. In response, the two staff members received a report saying that it was confirmed that a leakage of steam from the pinhole of the steam pipe in the filling area had caused the sound. The person in charge closed the main valve to the steam pipe and confirmed that the abnormal sound stopped. A plant worker in charge called the monitor to apologize for the fact that the abnormal sound was caused by the plant and provide detailed information on the incident. Two staff members in charge at the plant visited the monitor's house but the person was not at home. One of them later called the monitor to apologize and provide detailed information again, which was accepted.

Major social activities of the Nippon Soda Group

Nippon Soda conducts social activities from the perspective of living in harmony with local communities, and for the development of local communities.

Participation in local events

FY 2018				
Site	Name of local event	Date	Summary	Number of participants
Nihongi Plant	Nakago-ku Eco-walk	April 23 and October 15, 2017	Participation in picking up trash along frontage roads of a main road in Nakago-ku	About 120 persons
	Cleaning from the plant's west entrance up to the road connecting to the national road	April 24, 2017	Picking up trash along the road (independently conducted by Production Management Section and KAIZEN Team)	14 persons
	Fujisawa area autumn festival	August 24, 2017	Participation in a festival held in the plant's neighboring community (carrying the portable shrine)	Plant Manager and 3 other persons
Takaoka Plant	Disaster prevention training for high-pressure gas transfer	October 12, 2017	Held at Toyama Wide Area Firefighting Disaster Prevention Center (Kurobe in 2018, Takaoka in 2019)	3 persons
	"Thanking Local Residents" event	November 12, 2017	Plant tour, chemistry experiments for children, panel displays	250 persons (40 persons from plant)
	Meeting with environmental monitors	November 21, 2017	Exchange of opinions with environmental monitors	9 persons (4 persons from plant)
	Meeting with local residents	November 28, 2017	Exchange of opinions with local residents	45 persons (5 persons from plant)
		November 29, 2017 December 4, 2017 December 6, 2017		
Mizushima Plant	Cherry blossom party with local residents' associations	April 1, 2017	Networking with local companies and executives of the local residents' association	1 person
		April 2, 2017	Networking with local companies and executives of the local residents' association	1 person
	Kurashiki City 50th Anniversary Ceremony	April 23, 2017	Kurashiki City 50th Anniversary Ceremony	1 person
	Cleaning of the entire Takashima Road	May 16, 2017	Working together with local companies to clean up along the surrounding roads	16 persons
	Honjo School District GG competition (1 person)	May 20, 2017	Ground golf competition held also for networking with local companies and the Honjo school district	1 person
	Bon dance festival with local residents' association	August 11-13, 2017	Bon dance festival held also for networking with local companies and the local residents' association (4 areas in 3 days)	1 person each
	Zero trash campaign for Kurashiki City	September 3, 2017	Working together with local residents to pick up trash along the surrounding roads	1 person
	Shionasu Shrine (Autumn Grand Festival)	October 15, 2017	Shionasu Shrine (Autumn Grand Festival)	1 person
	Honjo ground golf competition	November 4, 2017	Ground golf competition held also for networking with local companies and the Honjo school district	1 person
	Kissho-in (Iou Inari Grand Festival)	November 11, 2017	Kissho-in (Iou Inari Grand Festival)	1 person
	Honjo Fureai rice-cake-making event	December 10, 2017	Rice-cake-making festival held also for networking with the local fire department and local companies	3 persons
	End-of-year joint party with four local districts	December 14, 2017	End-of-year joint party with four local districts	2 persons
	Kurashiki Mayor Kaori Ito's Party	December 21, 2017	Kurashiki Mayor Kaori Ito's Party	1 person
	Nisui-kai (New Year's greeting exchange)	January 10, 2018	Networking with local companies and executives of the local residents' association	2 persons
	Tsuitachi-kai (New Year's greeting exchange)	January 10, 2018	Networking with local companies and executives of the local residents' association	4 persons
Cherry blossom party with the Utouma-Kanahama residents' associations	March 31, 2018	Networking with local companies and executives of the local residents' association	1 person	

FY 2018				
Site	Name of local event	Date	Summary	Number of participants
Chiba Plant	Goi Rinkai Festival	June 4, 2017	Local residents coming together at the Ichihara Ryokuchi Park	10 persons
	Wakamiya Hachiman Shrine Grand Festival	July 16, 2017	Grand Festival of the Wakamiya Hachiman Shrine	1 person
	Yoro Shrine Summer Grand Festival	July 30, 2017	Summer grand festival of Yoro Shrine	1 person
	Iwasaki bon dance festival	August 5, 2017	Iwasaki bon dance festival at the Ryokuchi Sports Park	1 person
	Dezu bon dance festival	August 5, 2017	Bon dance festival of Dezu-cho Association	1 person
	Kashi bon dance festival	August 5, 2017	Bon dance festival of Kashi-cho Association	1 person
	Matsugashima summer festival	August 19, 2017	Summer festival in Matsugashima	1 person
	Tamasaki summer festival	August 19, 2017	Summer festival at the plaza in front of the Tamasaki community building	1 person
	Kazusa Ichihara Kokufu Festival	September 30, 2017	Local residents coming together at the Kazusa Sarashina Park	2 persons
	Omiya Shrine autumn festival	November 1, 2017	Autumn festival of the Omiya Shrine	1 person
	Singles event at an industrial complex	November 18, 2017	Singles event held at the Brick & Wood Club	6 persons
	Omiya Shrine New Year festival	January 1, 2018	New Year festival of the Omiya Shrine	1 person
	New Year's festival at Kashi Fuki Inari Shrine	January 1, 2018	New Year's festival of Fuki Inari Shrine at Kashi Park	1 person
	Setsubun festival of Omiya Shrine	February 3, 2018	Mame-maki (soy bean throwing) at Omiya Shrine	1 person
	Iwasaki Inari Shrine annual spring festival	March 4, 2018	Annual spring festival of the Iwasaki Inari Shrine	1 person
Kashi Fuki Inari Shrine festival	March 11, 2018	Festival of the Kashi Fuki Inari Shrine held at Kashi Park	1 person	
Spring grand festival of Dezu-cho Association	March 10, 2018	Spring festival of Yakumo Shrine	1 person	
Odawara Research Center	Local community cleanup	May 30, 2017	Cleanup of roads near Odawara Research Center	37 persons
	Local community cleanup	October 30, 2017	Cleanup of roads near Odawara Research Center	36 persons
	Safety prayer festival (Sugawara Shrine)	January 5, 2018		20 persons (2 persons from Nippon Soda)
	Organizers' association for the Sakabe District Corporate Social Gathering Association (Haibara)	January 24, 2018	Meeting to discuss the details of the general meeting of the Corporate Social Gathering Association	7 persons (One person from Nippon Soda)
	General meeting of the Sakabe District Corporate Social Gathering Association (Haibara)	February 22, 2018	Mayor's lecture, general meeting of the Corporate Social Gathering Association, social gathering with local companies and residents in the Sakabe District	35 persons (One person from Nippon Soda)
Chiba Research Center	Singles event at an industrial complex	December 16, 2017	Singles event at Idemitsu Kaikan	2 persons

Each worksite undertakes diverse activities that match the needs of the area to develop good relationships with local residents.



Nakago-ku Eco-walk (Nihongi Plant, April 23, 2017)



"Thanking Local Residents" event (Takaoka Plant, November 12, 2017)



Honjo Fureai rice-cake-making event (Mizushima Plant, December 10, 2017)



Goi Rinkai Festival (Chiba Plant, June 4, 2017)



Local cleanup event (Odawara Research Center, May 30, 2017)

Stakeholder engagement

We are involved in stakeholder engagement through dialogues with our stakeholders to better understand society's needs and values and to advance business activities that meet the expectations of the local communities.

● BCM rating from the Development Bank of Japan (DBJ)

Reviewed on: November 2, 2012

Rated on: January 15, 2013 Rank A (the best)

● Environmental Responsibility Rating from the DBJ

FY 2015: Rank B

In March 2015, Nippon Soda received a loan from the Development Bank of Japan as a result of receiving high marks under the bank's DBJ Environmental Ratings for our "particularly cutting-edge, environmentally conscious efforts."

● Incorporation into the Meiji Yasuda Women's Participation and Advancement in the Workplace Fund

● Hosting stakeholder dialogue

We hold a stakeholder dialogue to identify materiality in which Nippon Soda needs to be involved.

● Efforts to prevent occupational accidents

As part of our stakeholder engagement activities, the Risk Engineering Department of Sompo Risk Management & Health Care Inc. was asked to conduct an occupational health and safety survey at Takaoka Plant on December 13 and 14, 2017.

● Implementation of diagnosis of disaster prevention capability

Disaster prevention capability diagnosis was performed by the Sompo Risk Management & Health Care Inc.

Chiba Plant	June 2, 2017
Takaoka Plant	September 28 and 29, 2017
Nihongi Plant	November 21 and 22, 2017
Odawara Research Center	September 1, 2017
Chiba Research Center	October 20, 2017
Nisso Metallochemical Co., Ltd. Aizu Plant	May 25 and 26, 2017
Nisso Fine Co., Ltd. Koriyama Plant	June 23, 2017

Signing of and support for economic, environmental and other initiatives, social charters, and principles

Title	Applicable countries	Applicable worksites	Signature date	Voluntary/Mandatory
Declaration on the promotion of responsible care activities	Japan and 43 other countries and regions	All offices, consolidated subsidiaries	October 30, 1998	Voluntary
Declaration on the promotion of CSR activities	Japan and 43 other countries and regions	All offices, consolidated subsidiaries	April 1, 2012	Voluntary
Responsible Care Global Charter	Japan and 43 other countries and regions	All offices, consolidated subsidiaries	December 5, 2014	Voluntary

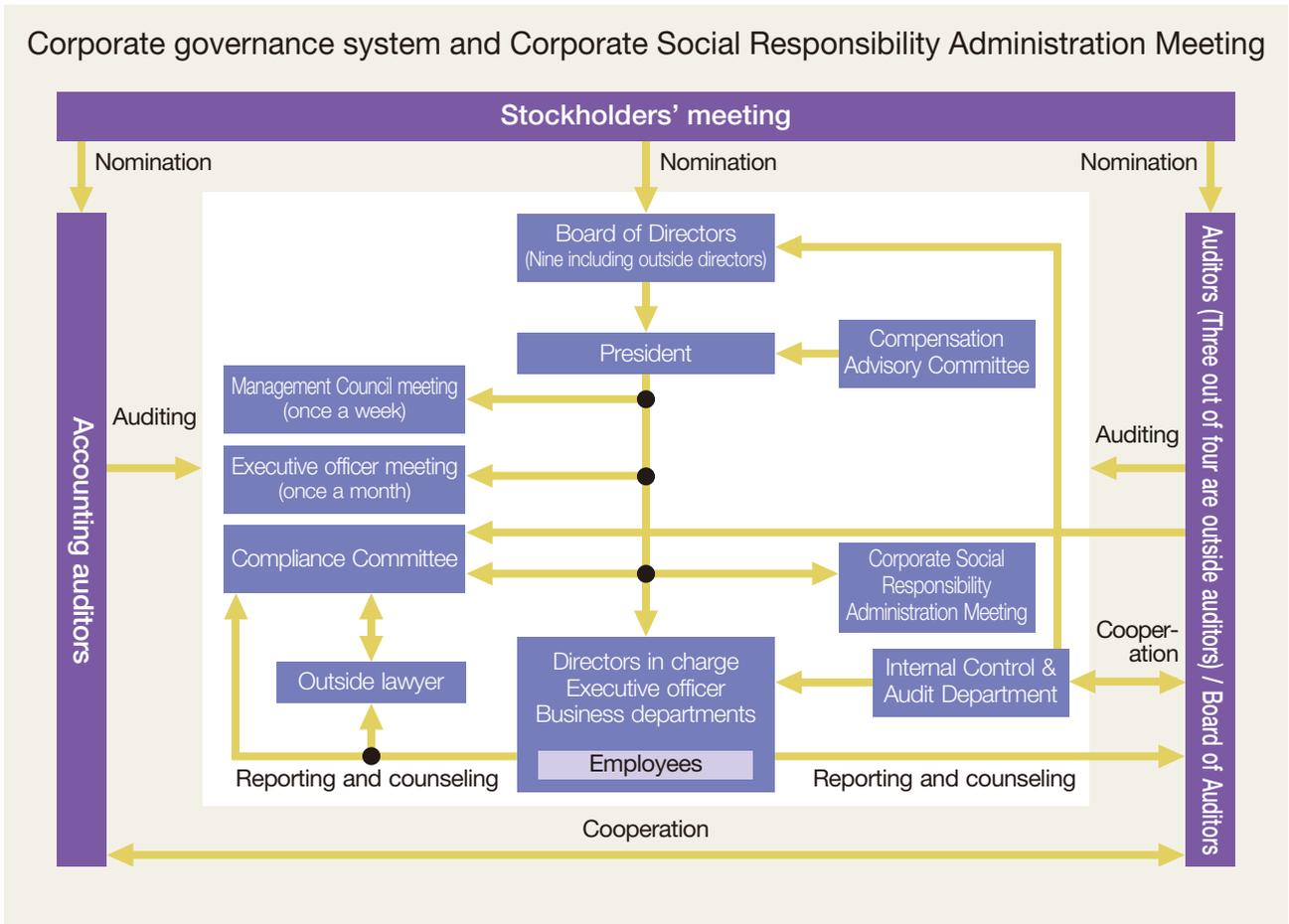
Membership categories at advocacy organizations and institutions in Japan and abroad

Advocacy institutions	Applicable countries	Membership
International Council of Chemical Associations (ICCA)	Worldwide	Participating as a corporate member of JCIA
Japan Chemical Industry Association (JCIA)	Japan	Corporate member
Global Product Strategy (GPS)	Worldwide	Participating as a corporate member of JCIA
Japan Initiative of Product Stewardship (JIPS)	Japan	Participating as a corporate member of JCIA
Japan Soda Industry Association (JSIA)	Japan	Member

Governance/ Compliance/ Risk Management

We adopt the Corporate Governance Code as the basis for our business activities with an emphasis on sound and transparent business management that complies with the law.

Corporate Governance



Basic concept

Nippon Soda places primary importance on sound and transparent business management in compliance with the law. Its management philosophy is to contribute to social development by providing superior products through chemistry, to meet expectations from stakeholders, including shareholders, business partners, employees and local communities, and to promote environmentally conscious business practices and activities. Under this philosophy, Nippon Soda is committed to growing into a technology-oriented group that develops high-value-added products by making best use of its proprietary technologies and expands its business internationally with a focus on chemistry. Nippon Soda recognizes the importance of good corporate governance in order to achieve its philosophy and respond promptly and effectively to sudden changes in the business environment.

Corporate governance system

To meet social demands, Nippon Soda complies with the Corporate Governance Code, deepens its understanding of social contexts and respects their meaning in order to improve the corporate governance system.

The Board of Directors

The Board of Directors discusses issues governed by laws, regulations and articles of incorporation as well as important decisions related to business management defined by the Board's regulations, and supervises business execution.

The Board of Auditors

The Board of Auditors audits business execution performed by the Board of Directors, in cooperation with the Internal Control & Audit Department and accounting auditors.

Outside directors

Outside directors ensure objectivity and rationality in business decision making by the Board of Directors so as to improve medium- to long-term corporate value.

Effectiveness assessment of the Board of Directors

A self-assessment questionnaire is given to all directors and auditors to determine the effectiveness of business management and improve supervision. Based on questionnaire results, the company analyzes and evaluates the effectiveness of the Board of Directors.

Compliance

Basic concept

Nippon Soda ensures corporate activities are undertaken in compliance with laws, regulations and corporate ethics by ensuring all employees are fully informed of the Nippon Soda Group Code of Conduct. Our efforts to ensure business management that emphasizes regulatory compliance include the establishment of the Compliance Committee and proper operation of the internal reporting system. Through these efforts, we enhance the internal control system and continue to be a company trusted by society.

The Nippon Soda Group Code of Conduct comprises the following sections:

1 Compliance with laws, rules, regulations and corporate ethics	(1) Fair behavior	(2) Compliance with corporate ethics	(3) Prompt corrective action and strict disciplinary action in response to the violation of a law, rule or regulation
2 Relationships with society	(1) Contribution to society	(2) Compliance with industry laws	(3) Restrictions on political and other donations
3 Relationships with customers, business partners and competitors	(4) Severance of relationships with antisocial forces	(5) Environmental preservation and protection	(6) Compliance with laws and regulations related to security trade control and import and export
4 Relationships with shareholders and investors	(1) Safety of products	(2) Compliance with the Antimonopoly Act	(3) Compliance with suppliers' guidelines for fair transactions and the Subcontract Act
5 Relationships with employees	(4) Prevention of unfair competition	(5) Business entertainment and gifts	(6) Prevention of bribery of foreign public officials
6 Relationships with the company and its assets	(1) Disclosure of management information	(2) Prohibition of insider trading	
7 Supplementary provisions	(1) Respect for human rights and prohibition of discrimination	(2) Sexual harassment	(3) Protection of privacy
	(4) Safety and hygiene at worksites	(5) Compliance with labor laws	
	(1) Compliance with working regulations	(2) Proper accounting	(3) Conflicts of interest
	(4) Prohibition of political and religious activities	(5) Management of corporate secrets	(6) Appropriate use of corporate assets
	(7) Appropriate use of information systems	(8) Protection of intellectual property	
	(1) Scope of application of this Code of Conduct	(2) Revision and abolition of this Code of Conduct	(3) Violation consultation hotline
	(4) Penalties		

Compliance education

The requirements that allow the Nisso Group to conduct sound business activities are specified in the Nippon Soda Group Code of Conduct, which is distributed to the management teams and all employees of Nippon Soda and its consolidated companies. Training based on the Code of Conduct is provided on a regular basis to ensure compliance with laws and regulations.

A compliance survey is conducted among all employees once a year. Training on job-related laws and regulations is also provided at least once a year. In fiscal 2018, major compliance training sessions were held six times at Nippon Soda and major group companies, with the participation of 112 employees in total.

Education on laws and regulations related to chemicals and product safety

Nippon Soda provides educational and explanatory sessions on laws and regulations related to the management of chemicals on a regular basis.

1) Education for new and transferred employees

· Head Office: 1st session on May 9 and 11, 2017

2nd session on May 15 and 18, 2017

Number of participants: 16

(Sessions for those who failed to participate in the sessions in May: October 18 and November 6, attended by four employees)

- Education on chemical substance regulations, the Poisonous and Deleterious Substances Control Act and internal rules
- 2) Education on the Poisonous and Deleterious Substances Control Act
 - Nihongi Plant: online education on June 1 undertaken by 15 employees
- 3) Explanatory sessions on chemical substance regulations in China and Vietnam
 - June 9, 12 and 14, 2017 attended by 20 employees
 - Registration and evaluation of hazardous chemicals in China, and preparation of a list (preliminary) of the latest trend in chemical regulations and existing chemical substances in Vietnam
- 4) Education on overseas laws and regulations
 - Head Office: October 31, November 1, 2 and 10, 2017, attended by 39 employees
 - Details: Explanatory session on overseas laws and regulations on chemical substances
- 5) Explanatory session on revision of laws and regulations
 - Head Office: February 20 and 26, 2018, attended by 40 employees
 - Four plants and two research centers (online education):
 - January 17, February 19 and 23, attended by 63 employees
 - Total of 103 employees
 - Details: Revisions to the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., the Industrial Safety and Health Act, the Poisonous and Deleterious Substances Control Act, the Fire Defense Law, the Regulations on Hazardous Materials, the Civil Aeronautics Act and other laws and regulations; overseas trends in revisions of laws and regulations, etc.



Training on overseas laws and regulations (November 10, 2017)

A fine exceeding the reasonable amount against the violation of laws and regulations related to the provision or use of products and services

No relevant events were reported.

Risk Management

The internal control system

- 1) In accordance with the basic policy regarding the improvement of systems necessary to ensure proper business operation, Nippon Soda establishes and implements systems that ensure compliance and efficient and sound company management as well as providing information on relevant rules throughout the company.
- 2) We promote CSR (corporate social responsibility) practices in order to maintain the trust of society needed to continue our business activities.

Regulations on the risk management of losses and other systems

- 1) We ensure corporate activities in compliance with laws, regulations and corporate ethics by ensuring all employees are fully informed of the Nippon Soda Group Code of Conduct.
- 2) Under the Corporate Social Responsibility Administration Meeting chaired by the President, we promote business activities taking into account environmental protection, occupational safety, product safety and human rights, as well as implement risk management according to corporate rules such as environmental management rules and security management rules, to prevent accidents from occurring.
- 3) Should a serious accident occur, an accident response headquarters is established in accordance with corporate rules, including the security management rules, to address the accident in a cross-sectional and systematic way.
- 4) If a natural disaster, such as a large earthquake, or any crisis that could have disastrous consequences occurs, we shall respond appropriately according to the business continuity plan (BCP).
- 5) Other risks associated with business execution are appropriately addressed by responsible departments in accordance with relevant manuals and other documents.
- 6) The Internal Control & Audit Department, independently from business departments, assesses the appropriateness and efficiency of business activities and the reliability of financial reports and promotes the appropriate functioning of the internal control system in business processes.

Internal audit

The company's Internal Control & Audit Department is independent from business departments. In cooperation with auditors, the Department, on a regular basis, assesses the appropriateness and efficiency of business activities and the reliability of financial reports.

Auditors are familiar with the entire Nippon Soda Group and inspect and monitor the proper execution of internal control. To ensure the reliability of financial reports, they work in close cooperation with accounting auditors. For example, auditors receive regular reports from accounting auditors and sometimes join some audits.

The risk management system

- 1) Nippon Soda operates a Compliance Committee, which reports directly to the President, to ensure corporate activities in compliance with laws, regulations and corporate ethics throughout the Group.
- 2) The Compliance Committee comprises executive officers as its members. At each department, branch, worksite and group company, a staff member in charge of compliance is appointed.
- 3) The requirements that allow the Group to conduct sound business activities are specified in the Nippon Soda Group Code of Conduct, which is distributed to the management and all employees of Nippon Soda and its group companies. In addition, training based on the Code of Conduct is regularly provided.
- 4) A consultation hotline is available to employees of Nippon Soda and its group companies who have violated internal policies or who have discovered violations committed by others to assist them in directly consulting with the Office of the Compliance Committee or a legal advisor or auditor.

Information disclosure to stakeholders

The director in charge of general affairs or the IR general manager plays a leading role to promote constructive communication with investors and shareholders to achieve the sustainable growth of Nippon Soda and improve its medium- to long-term value. If necessary, the company offers opportunities for communication with the Representative Director & President, directors in charge and/or executive officers.

Requests and opinions from investors and shareholders are conveyed to the Board of Directors and/or those

concerned, as necessary, and reflected in business management. Important corporate information is immediately reported to the President via the director in charge of public relations, who also serves as the information handling manager. Appropriate and immediate measures are taken, internally and externally, to address such information.

CSR activities

Nippon Soda's basic policy is to contribute to society through its business activities by effectively using the technologies, knowledge and human resources accumulated since its foundation. Based on this basic policy, we engage in CSR practices in order to maintain the trust of society we need to continue our business activities.

At every stage of the product life cycle, from manufacturing to disposal, we promote responsible care (RC) activities in order to conduct business activities that take into account environmental protection, occupational safety, and product safety.

Information security management

Appropriate management and protection of our information assets is one of the priority issues in managing our business. Nippon Soda promotes information security management under the supervision of the director in charge of information systems.

We have developed internal rules, including our policy on information security, and included issues related to the appropriate use of information systems in the Nippon Soda Group Code of Conduct. These efforts are aimed at raising awareness of the importance of information assets.

We strengthen the information security management system of the entire Nippon Soda Group. Efforts to help achieve this goal include drills on suspicious emails to prepare each group company in how to act to prevent viruses from external sources from infecting our computers.

Proper management of personal information

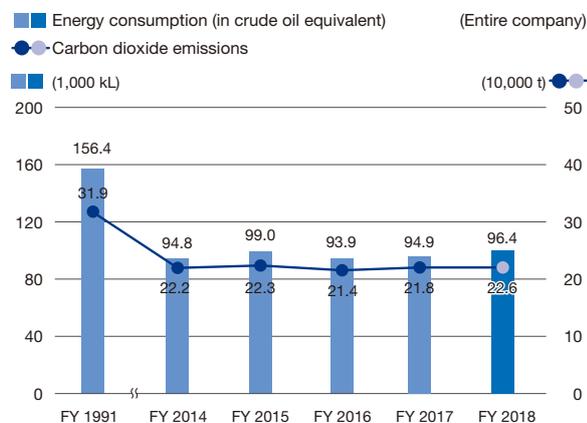
In response to the adoption of the My Number system in January 2016, Nippon Soda developed the Basic Policy for Proper Handling of Specific Personal Information and the Specific Personal Information Handling Regulations to ensure the proper handling of personal information as an organization.

We collect, use, store and handle individual numbers (My Numbers) of executives, employees and their dependents in an appropriate manner, in compliance with laws and regulations related to the handling of personal information and individual numbers, and within the scope of use specified in the basic policy and handling regulations.

Environmental, Social and Governance (ESG) Data

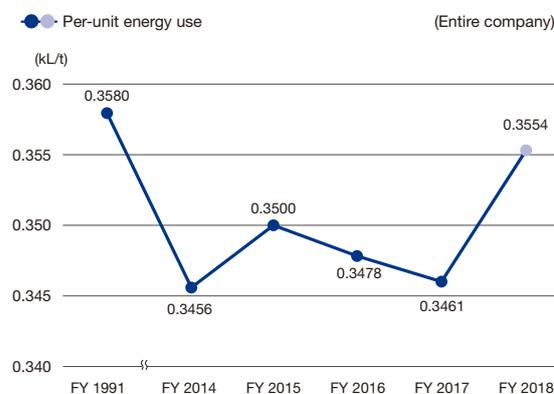
Environmental data of Nippon Soda

Changes in energy consumption and CO₂ emissions

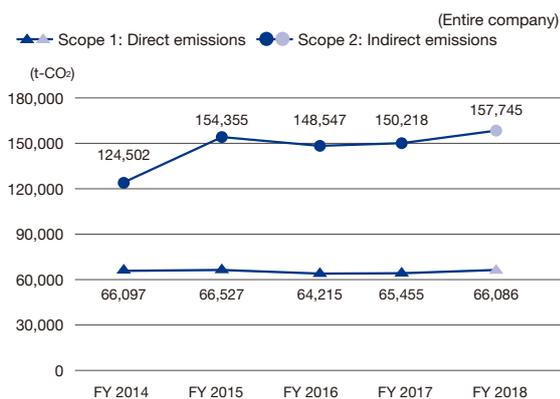


In FY 2010 and later years, the amounts of consumption at the Head Office, branches and other offices were included. The data collection area at Chiba Plant was changed.

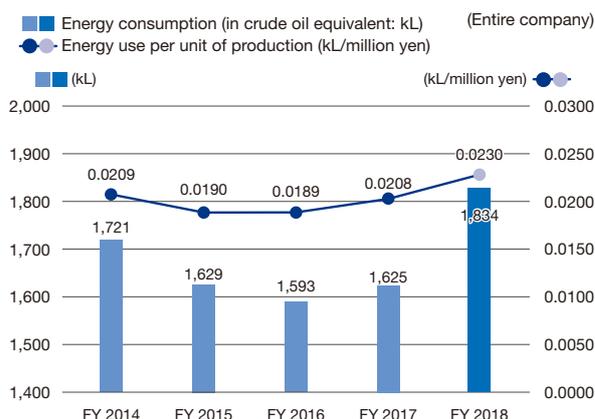
The energy use per unit of production



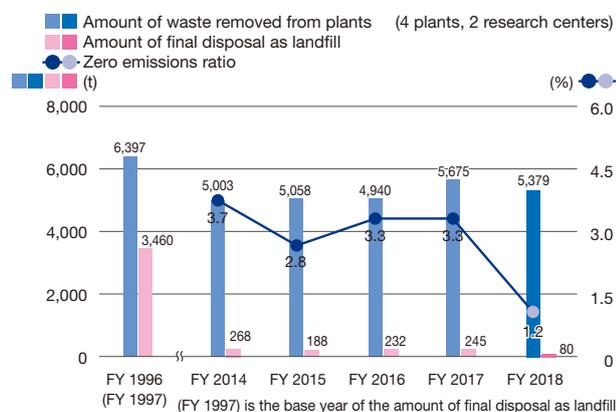
Changes in GHG emissions for Scope 1 and Scope 2



Changes in energy consumption related to transportation and energy use per unit of production

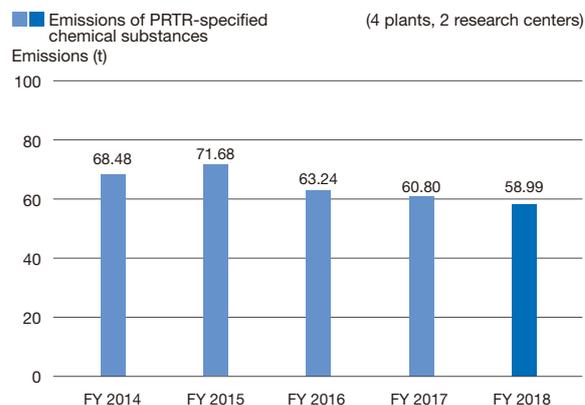


Change in the amount of industrial waste emissions

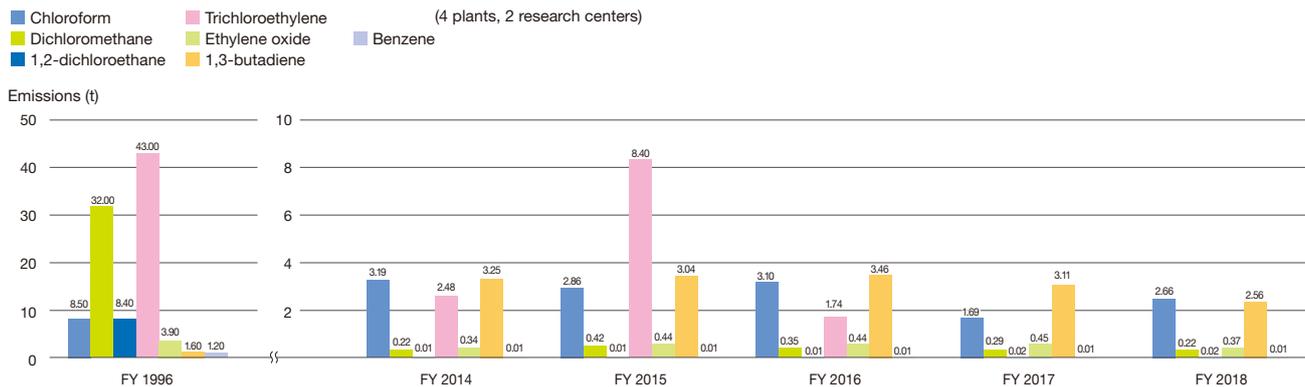


The amount of waste removed from plants does not include the waste sludge of activated sludge process at Takaoka Plant (which is treated with microbial autolysis at an external facility). Base year of the amount of final disposal as landfill: FY 1997

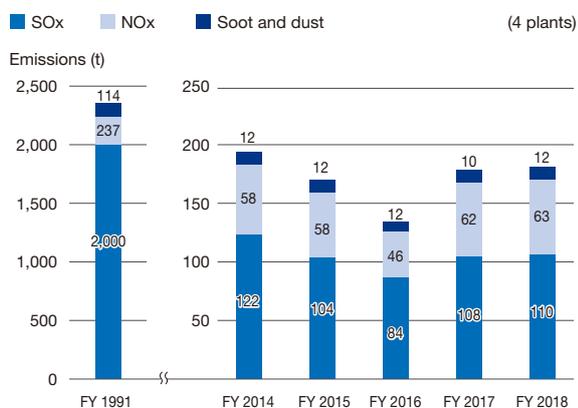
Changes in the emissions of Class 1 chemical substances specified by the PRTR Law



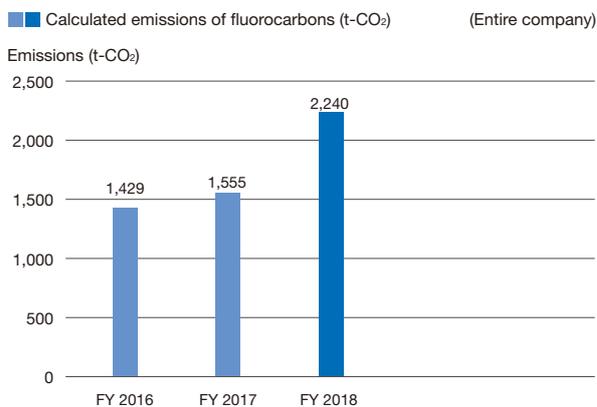
Changes in the emissions of voluntarily controlled chemical substances to the atmosphere



Changes in the emissions of substances controlled by the Air Pollution Control Act

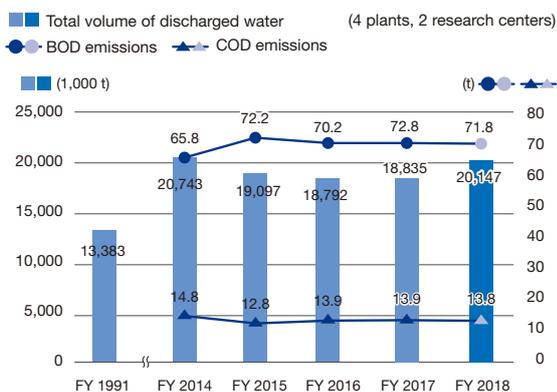


Change in the calculated emissions of fluorocarbons



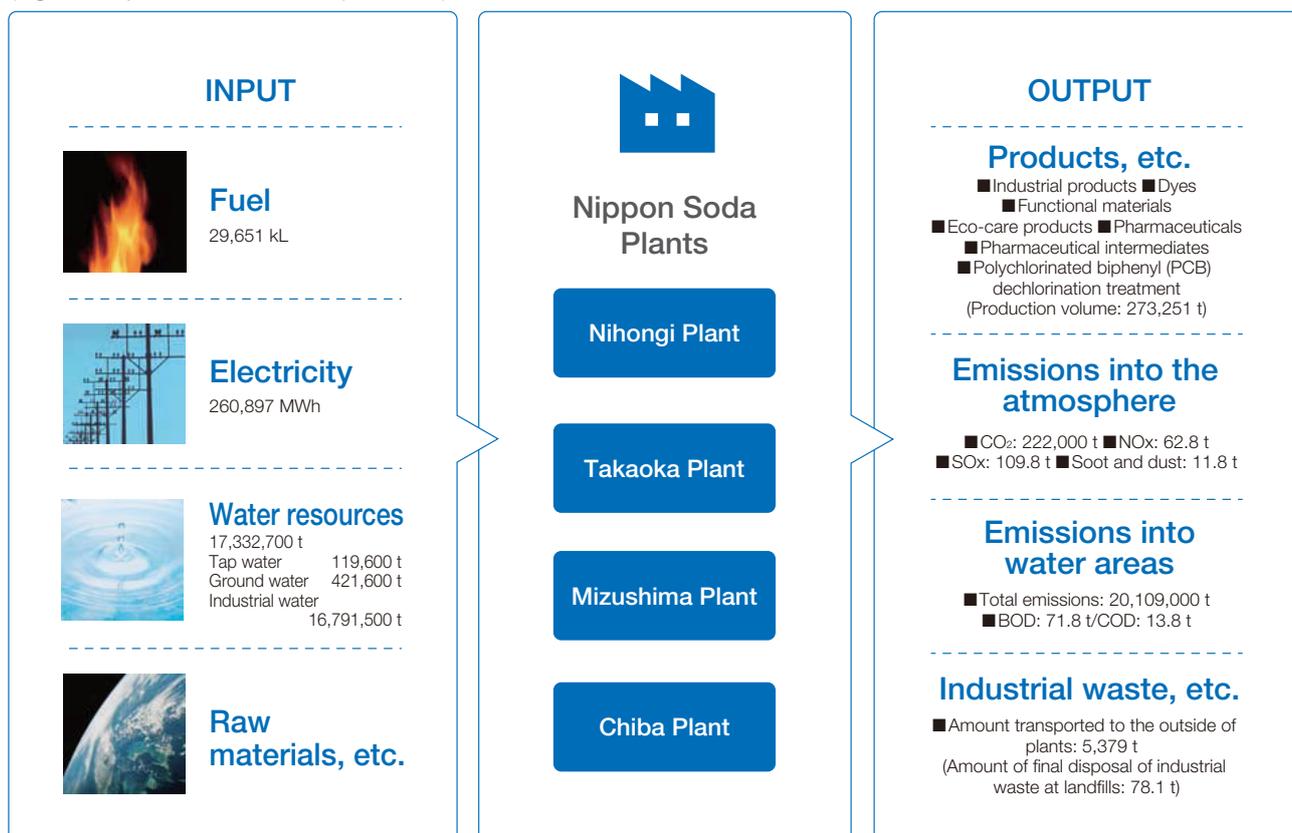
Causes for the increase in the emissions included deteriorated equipment and construction failures. To address these problems, we updated the deteriorated equipment, which has been completed.

Changes in the total volume of discharged water and emissions of BOD and COD



Major environmental impact data

The environment impacts of Nippon Soda's four major plants in Japan in FY 2018 are shown in the figure below:
(Figure: Major environmental impact data)



Violation of environment-related laws and regulations, etc.

(Nippon Soda)

April 24, 2017 at Takaoka Plant: Violation of the wastewater agreement: A concentration of arsenic of 0.06 mg/L was detected, which exceeded the agreed content of arsenic (0.05 mg/L). After reporting the violation to the authorities, we identified the cause and took measures to prevent recurrence.

July 16, 2017 at Chiba Plant: Violation of the wastewater agreement: A concentration of COD of 45.7 mg/L was detected, which exceeded the three-party agreed content of COD (23 mg/L). After reporting the violation to the authorities, we identified the cause and took measures to prevent recurrence.

February 27, 2018 at Takaoka Plant: Violation of the predetermined NO_x concentration cap in the exhaust gas in the exhaust gas combustion furnace: The concentration of NO_x of 131 ppm was detected, which exceeded the predetermined NO_x concentration cap (100 ppm). After reporting the violation to the authorities, we identified the cause and took measures to prevent recurrence.

(Group companies)

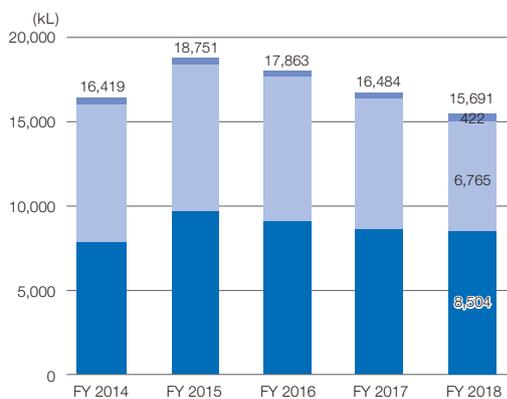
March 23, 2018 at Isohara Plant of Nisso Fine Co., Ltd.: When preparing for the notification of installation of a specified facility under the Water Pollution Prevention Act, it was revealed that we had failed to submit a notification in the past. We reported this failure to the authorities and submitted the "notification of installation" with an attached statement of reasons for the delay along with the "notification of abolition" to the Ibaraki Prefecture Kenhoku Kenmin Center, which were accepted on March 23. We also completed our investigation to identify the reason and take measures to prevent recurrence.

Environmental data of group companies

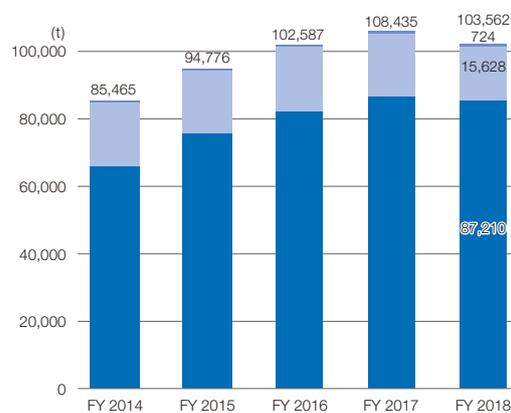
Manufacturing group company

■ Nisso Metallochemical Co., Ltd. ■ Nisso Fine Co., Ltd. ■ Shinfuji Kaseiyaku Co., Ltd.

Change in energy consumption (in crude oil equivalent)

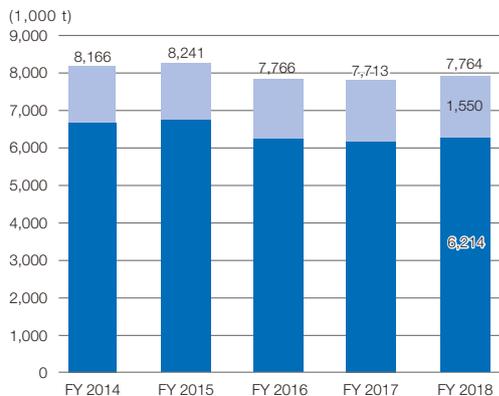


Change in the amount of carbon dioxide emissions

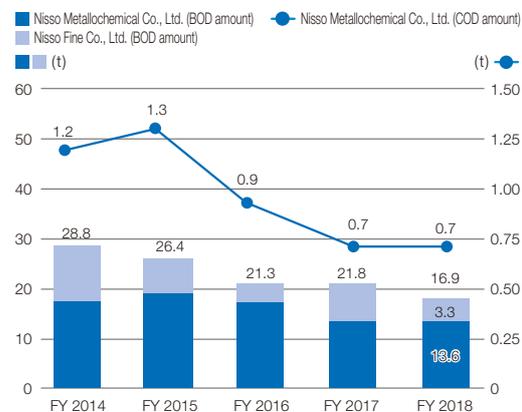


Note: The increase in CO₂ emissions was due to an increase in industrial waste oil received by Aizu Plant of Nisso Metallochemical Co., Ltd. under a contract.

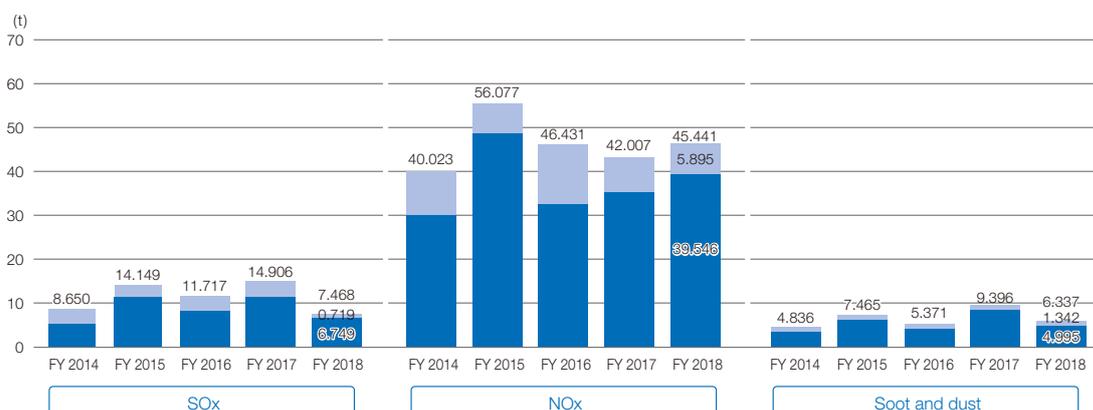
Change in the total volume of discharged water



BOD & COD of wastewater of manufacturing group companies

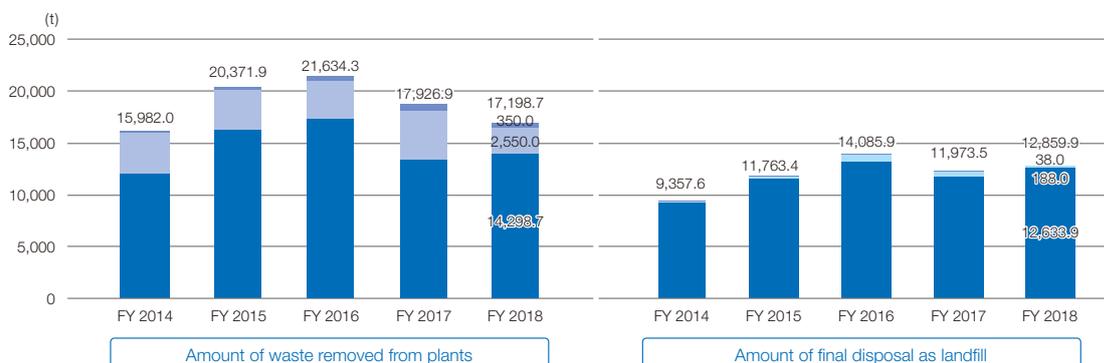


Change in the amount of emissions of substances controlled by the Air Pollution Control Act



■ Nisso Metallochemical Co., Ltd. ■ Nisso Fine Co., Ltd. ■ Shinfuji Kaseiyaku Co., Ltd.

Change in the amount of industrial waste emissions



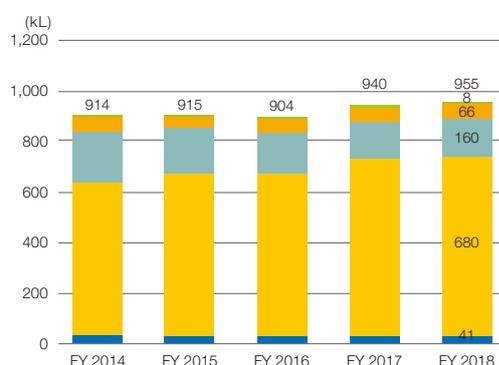
Overseas manufacturing group companies

(FY)		2014	2015	2016	2017	2018
Alkaline SAS (MSSA) (France)	Energy consumption (MWh)	261,886	251,968	277,814	271,004	289,841
	Total amount of wastewater (1,000 t)	277.49	261.85	253.03	235.79	230.62
Nisso Namhae Agro Co., Ltd. (Korea)	Energy consumption (in crude oil equivalent) (kL)	2,335.23	1,980.93	2,046.18	2,040.68	1,761.83
	Carbon dioxide emissions (1,000 t)	4.70	3.96	4.09	4.07	3.48
	Total amount of wastewater (1,000 t)	125.13	115.89	103.98	98.48	90.78

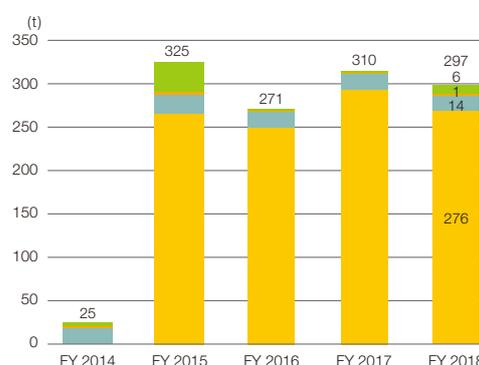
Non-manufacturing group companies

■ Nisso Shoji Co., Ltd. ■ Sanwa Soko Co., Ltd. ■ Nisso Engineering Co., Ltd.
 ■ Nisso Kensetsu Co., Ltd. ■ Nisso Green Co., Ltd.

Change in energy consumption (in crude oil equivalent)



Change in the amount of industrial waste emissions

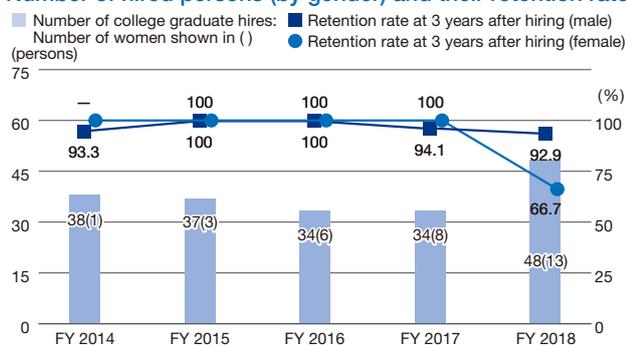


Note: The amount of waste generated at Nisso Shoji Co., Ltd. is not included.
 The amount generated at Sanwa Soko Co., Ltd. is only included in the tabulation for fiscal 2015.

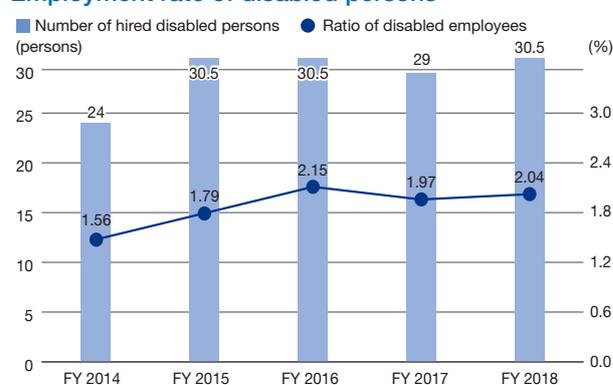
Environmental, Social and Governance (ESG) Data

Social data of Nippon Soda

Number of hired persons (by gender) and their retention rate



Employment rate of disabled persons



Change in the number of employees who took child/family care leave

FY	Those who took child care leave (person)		Those who took family care leave (person)	
	Men	Women	Men	Women
2014	1	6	0	0
2015	0	6	0	0
2016	1	2	0	0
2017	2	3	1	0
2018	3	4	0	0

Change in the number of employees who took maternity/child care leave and the rates of those returning to work and those remaining for three years after returning to work (by gender)

FY	Employees who took maternity/child care leave (employee)		Rate of employees returning to work (%)		Rate of employees remaining with the company (%)	
	Men	Women	Men	Women	Men	Women
2014	1 (1,151)	7 (134)	100	100	—	50
2015	0 (1,144)	5 (137)	—	100	—	83.3
2016	1 (1,137)	2 (142)	100	100	100	100
2017	2 (1,138)	3 (152)	100	100	100	100
2018	3 (1,130)	6 (159)	100	75	100	100

The numbers were counted at the first fiscal year of the leave.
The numbers in brackets are the total numbers of men and women respectively at the end of each fiscal year.
Retention rate is for employees who in this fiscal year are in their third year since returning to work.

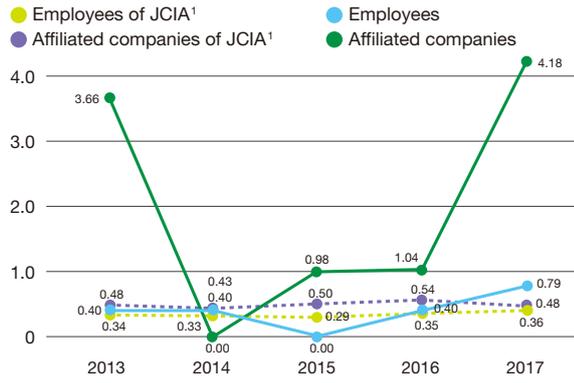
Total annual working hours per employee

Normal working hours (hours)	Early start and overtime hours (hours)	Holiday overtime hours (hours)	Paid annual leave days taken (days)	Various kinds of leave days taken (days)	Total annual working hours per person (hours)
1,825.1	130.1	9.1	15.0	1.8	1,763.9

Number of labor union members (Nippon Soda)

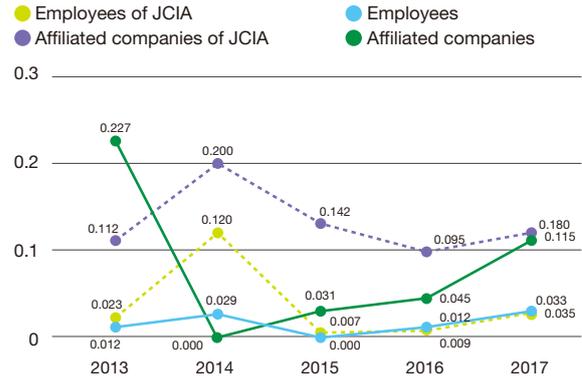
FY	The number of labor union members (person)	Average age (years)	Average length of service (years)	Rate of members (%)
2014	856	40.9	19.9	65.5
2015	845	40.6	19.3	65.0
2016	844	40.4	18.9	64.8
2017	820	39.3	17.6	63.3
2018	824	37.9	15.8	62.7

Change in occupational accident frequency rates



Occupational accident frequency rate: Casualties/Total working hours (per million hours)
 1. JCIA stands for Japan Chemical Industry Association.
 The data were collected from January 1 to December 31 of each year.

Change in the severity rate of occupational accidents



Severity rate of occupational accidents: Man-days lost/Total working hours (per 1,000 hours)
 The data were collected from January 1 to December 31 of each year.

CSR Activities at Plants

Nihongi Plant



950, Fujisawa, Nakago-ku, Joetsu, Niigata 949-2392
 Tel: +81-255-81-2300 Fax: +81-255-81-2341



Major products manufactured Caustic potash, alcoholate, NISSO-HPC, faropenem sodium, Mospilan, Nissorun, NISSO HI-CHLON, HIDION, etc.

Number of employees 318 (as of the end of March 2018)
 (Including 58 Joetsu Nisso Chemical employees)

Number of employees of affiliates 225 (as of the end of March 2018)
 ISO 14001: Certified in March 2000
 ISO 9001: Certified in August 1995
 OHSAS 18001: Certified in April 2009

Akira Kaneko, Senior Executive Officer, Nihongi Plant Manager

Nihongi Plant is the birthplace of Nisso. The plant operation started 97 years ago amid the rich natural environment at the base of Mount Myoko, one of the “100 famous Japanese mountains.” Until now, we have continued our operation while considering the natural environment and gained the understanding and support of local communities and stakeholders through various exchange programs. Recently, we participated in a project to create a new community, in response to the launch of the Hokuriku Shinkansen line and Echigo Tokimeki railway.

We make concerted efforts involving all employees to achieve the goals of CSR activities and promote business activities that give consideration to safety and health, environmental conservation and quality assurance in order to contribute to realizing a vibrant society. Our efforts are also focused on being a plant that is trusted not only by everyone working at the plant but also by local residents. To achieve this, we include, in the key goals in our plant’s policy, the achievement of zero accidents and disasters and improvement of our performance in CSR activities.

Actual environmental data in FY 2018

Unit: t/year (amount of discharged water: 1,000 t/year; CO₂: 10,000 t/year)
 The figure in brackets indicates the difference from the result in FY 2017; + shows an increase and ▲ shows a decrease.

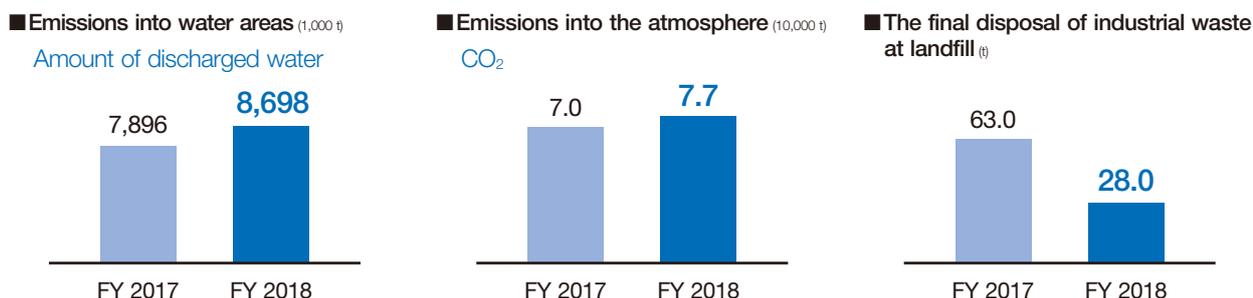
Emissions into water areas			Emissions into the atmosphere				The final disposal of industrial waste at landfill
Amount of discharged water	BOD	COD	CO ₂	NO _x	SO _x	Soot and dust	
8,698 (+802)	12.1 (▲3.1)	—	7.7 (+0.7)	28.1 (+1.6)	7.4 (+1.5)	10.6 (+2.1)	28.0 (▲35.0)

Emissions of PRTR-designated substances in FY 2018

The figure in brackets indicates the difference from the result in FY 2017; + shows an increase and ▲ shows a decrease.

Substance name	Amount emission		Amount transported
	Air	Water	
Toluene	22.20 (+0.23)	0.00 (0.00)	0.00 (0.00)
Fluorine	0.00 (0.00)	0.00 (0.00)	2.05 (+0.10)
Chloroform	2.26 (+1.02)	0.00 (0.00)	0.00 (0.00)
Designated substances: 15 substances Total emissions: 26.00 t Total amount transported: 2.05 t			

The amount of boron exceeded 1 ton due to increased production of products using it, and is thus required to be reported (from 14 to 15)



Takaoka Plant

300 Mukaino-honmachi, Takaoka, Toyama 933-8507
 Tel: +81-766-26-0206 Fax: +81-766-26-0300



- Major products manufactured** Caustic soda, hydrochloric acid, TODI, phosphorous chloride, organotitanium, Topsin-M, Trifmine, pesticide formulation products, etc.
- Number of employees** 341 (as of the end of March 2018)
 (Including 20 employees of Nisso BASF Agro Co., Ltd., a manufacturing joint venture)
- Number of employees of affiliates** 177 (as of the end of March 2018)
- ISO 14001: Certified in November 2000
- ISO 9001: Certified in June 1995
- OHSAS 18001: Certified in November 2005

Atsuo Watanabe, Executive Officer, Takaoka Plant Manager

Takaoka Plant started its operation in 1934 by the Oyabe river in Takaoka City in Toyama Prefecture. The area is surrounded by the Tateyama mountain range, the Hida Mountains and the Hakusan mountain range, which provide abundant water, and Toyama Bay, which is rich in natural resources. Supported by abundant water and electricity, we manufacture basic chemical products through the electrolysis of sodium, which is the basis of the chemical industry. Using these chemical products as ingredients, we also manufacture functional chemicals and agrochemicals, which are essential to modern society.

There are many issues associated with the process of manufacturing these products, including large amounts of electricity consumption and the generation of waste. Taking these issues seriously, we have been engaged in various efforts for conserving the environment, such as energy reduction and waste recycling. Since Takaoka Plant is a chemical plant, all employees working here handle hazardous substances professionally and safely. We also place emphasis on ensuring safety and disaster prevention so that even if an accident does occur we can minimize damage and prevent any impact on the environment and residents in nearby communities.

We recognize that it is the responsibility of our plant and our company to ensure the safety and security of the environment of Toyama Bay, one of the most beautiful bays in the world, and the local communities.

Actual environmental data in FY 2018

Unit: t/year (amount of discharged water: 1,000 t/year; CO₂: 10,000 t/year)
 The figure in brackets indicates the difference from the result in FY 2017; + shows an increase and ▲ shows a decrease.

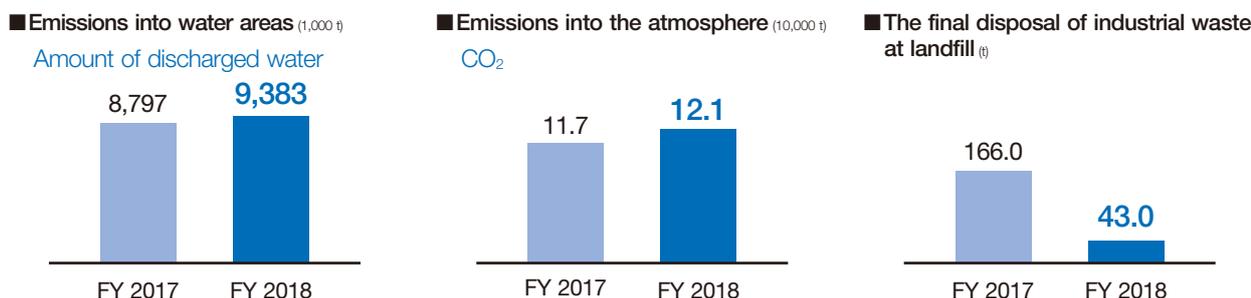
Emissions into water areas			Emissions into the atmosphere				The final disposal of industrial waste at landfill
Amount of discharged water	BOD	COD	CO ₂	NO _x	SO _x	Soot and dust	
9,383 (+586)	59.7 (+2.1)	—	12.1 (+0.4)	29.7 (+0.1)	102.4 (+0.4)	1.2 (▲0.6)	43.0 (▲123.0)

Emissions of PRTR-designated substances in FY 2018

The figure in brackets indicates the difference from the result in FY 2017; + shows an increase and ▲ shows a decrease.

Substance name	Amount emission		Amount transported
	Air	Water	
Toluene	0.15 (▲0.06)	0.00 (0.00)	13.39 (▲26.42)
Chlorobenzene	13.94 (+1.42)	2.04 (+0.20)	3.22 (+1.60)
Chloroform	0.21 (▲0.02)	0.01 (0.00)	95.92 (▲6.09)

Designated substances: 21 substances Total emissions: 17.84 t Total amount transported: 121.76 t



Mizushima Plant

2767-12 Kojima-shionasu, Kurashiki, Okayama 711-0934
 Tel: +81-86-475-0036 Fax: +81-86-475-0039



- Major products manufactured** Soda cyanide, potassium cyanide, NISSO DAMN (diaminomaleonitrile)
- Number of employees** 53 (as of the end of March 2018)
- Number of employees of affiliates** 24 (as of the end of March 2018)
- ISO 14001: Certified in October 2001
- ISO 9001: Certified in January 1999
- OHSAS 18001: Certified in January 2009



Hajime Takasawa, Mizushima Plant Manager

Mizushima Plant started its operation in 1969 in the Mizushima Industrial Area, which extends from the mouth of the Takahashi river in Okayama Prefecture and has access to abundant supplies of industrial water, oil and electricity while being conveniently located for land and sea transportation. In its early days, the plant was supplied with raw materials from neighboring companies. Keenly aware of the highly toxic cyanide the plant uses in its production activities, all employees working at the plant, including those of affiliate companies, engage in CSR activities in compliance with requirements, including with regard to handling ingredients and products, wearing protect clothing correctly, and performing safe operations.

The key goal in our plant's policy is to achieve zero accidents and disasters. Continuous efforts have been made to achieve this goal, such as inspection patrols, emergency drills and other activities to ensure occupational safety and health. To further improve the plant's CSR activities, all plant personnel share information on the progress of CSR activities at the plant through its Mission Visualization (MV) project, based on which they make concerted efforts to achieve improvement.

We will continue our efforts to promote CSR activities so as to be recognized for our safe, stable and problem-free operation by society.

Actual environmental data in FY 2018

Unit: t/year (amount of discharged water: 1,000 t/year; CO₂: 10,000 t/year)
 The figure in brackets indicates the difference from the result in FY 2017; + shows an increase and ▲ shows a decrease.

Emissions into water areas			Emissions into the atmosphere				The final disposal of industrial waste at landfill
Amount of discharged water	BOD	COD	CO ₂	NO _x	SO _x	Soot and dust	
500 (▲2)	—	2.0 (0)	1.0 (0)	5.0 (▲0.5)	0.0 (0)	0.0 (0)	4.4 (▲6.1)

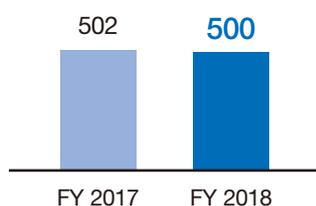
Emissions of PRTR-designated substances in FY 2018

The figure in brackets indicates the difference from the result in FY 2017; + shows an increase and ▲ shows a decrease.

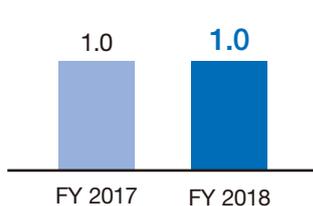
Substance name	Amount emission		Amount transported
	Air	Water	
Inorganic cyanides	0.17 (+0.05)	0.003 (±0.00)	0.01 (±0.00)
Acetonitrile	0.00 (0.00)	0.00 (0.00)	0.00 (▲0.16)
Xylene	0.00 (0.00)	0.00 (0.00)	0.00 (▲0.015)

Designated substances: 4 substances Total emissions: 0.17 t Total amount transported: 0.01 t

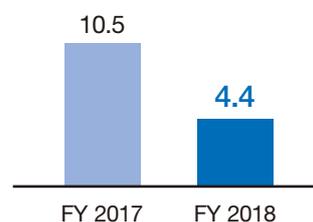
■ Emissions into water areas (1,000 t)
 Amount of discharged water



■ Emissions into the atmosphere (10,000 t)
 CO₂



■ The final disposal of industrial waste at landfill (t)



Chiba Plant

12-8 Goiminami-kaigan, Ichihara, Chiba 290-8530
 Tel: +81-436-23-2007 Fax: +81-436-22-6588



- Major products manufactured** NISSO-PB, VP Polymer, TITA BOND, D-90, TAKE-ONE
- Number of employees** 127 (as of the end of March 2018)
- Number of employees of affiliates** 70 (as of the end of March 2018)
- ISO 14001: Certified in July 2000
- ISO 9001: Certified in August 1997
- OHSAS 18001: Certified in February 2008

Teruo Tachibana, Executive Officer, Chiba Plant Manager

Chiba Plant, located in the Keiyo Coastal Industrial Complex, is not a large-scale general-purpose petrochemical plant but a relatively small-scale plant that manufactures many kinds of high-performance material products with unique features in small quantities.

The plant will mark the 50th anniversary of its founding in 2019. In order to celebrate the anniversary with no accidents and no disasters, we are currently focusing on the implementation of a “well-planned PDCA cycle,” one of the key goals of the plant. The PDCA cycle is an indispensable system for ensuring plant safety. It is possible to improve the effects of the “Do” part of the cycle by enhancing the quality of the “Plan.” We believe that if all employees deepen their thinking in regard to their work, we can maximize our achievements. Based on this belief, we implement daily CSR activities, including environmental protection, safety and health promotion, and quality assurance.

In accordance with this year’s plant motto of “A Plant with a Great Future,” we will further improve the foundation of the plant. We will continue our proactive communication with local residents and do our best to prevent disasters so that we can grow into a safer plant with a great future.

Actual environmental data in FY 2018

Unit: t/year (amount of discharged water: 1,000 t/year; CO₂: 10,000 t/year)
 The figure in brackets indicates the difference from the result in FY 2017; + shows an increase and ▲ shows a decrease.
 *— indicates facilities with no emissions.

Emissions into water areas			Emissions into the atmosphere				The final disposal of industrial waste at landfill
Amount of discharged water	BOD	COD	CO ₂	NO _x	SO _x	Soot and dust	
1,528 (▲71)	—	13.2 (+1.4)	1.4 (▲0.2)	*—	*—	*—	2.8 (▲0.7)

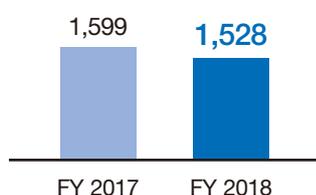
Emissions of PRTR-designated substances in FY 2018

The figure in brackets indicates the difference from the result in FY 2017; + shows an increase and ▲ shows a decrease.

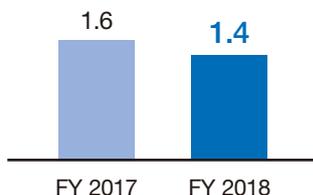
Substance name	Amount emission		Amount transported
	Air	Water	
Toluene	7.40 (▲2.87)	0.00 (0)	8.74 (+2.72)
n-hexane	3.64 (▲0.65)	0.00 (0)	0.00 (0)
1,3-butadiene	2.56 (▲0.55)	0.00 (0)	0.00 (0)

Designated substances: 11 substances Total emissions: 14.15 t Total amount transported: 48.40 t

■ Emissions into water areas (1,000 t)
 Amount of discharged water



■ Emissions into the atmosphere (10,000 t)
 CO₂



■ The final disposal of industrial waste at landfill (t)



Japan Chemical Industry Association

Third Party Verification Report on Nippon Soda Group CSR Report 2018



Nippon Soda Group CSR Report 2018 Third Party Verification Report

August 1, 2018

To Akira Ishii
Representative Director and President
Nippon Soda Co., Ltd.

■ Objectives of Verification

The Responsible Care® Report Verification was conducted by the Responsible Care Verification Center to verify the Nippon Soda Group CSR Report 2018 (paper and online versions, hereinafter referred to as the “CSR Report”) prepared by Nippon Soda Co., Ltd. and to present the views and comments of experts in the chemical industry on the following matters:

- 1) The reasonableness of the methods used to calculate and aggregate performance indicators (numerical values), and the accuracy of numerical values
- 2) The accuracy of reported information other than numerical values
- 3) Details of Responsible Care activities and CSR activities
- 4) Characteristics of the report

■ Verification Procedures

- At the Head Office, the reasonableness of methods to aggregate numerical values reported from each site (office, plant) and the accuracy of reported information other than numerical values were assessed through interviews with managers responsible for each task and those who were responsible for the preparation of the reports, based on materials and explanations provided by these managers.
- At Chiba Plant, the reasonableness of the method used to calculate numerical values and the accuracy of numerical values and the information described in reports submitted to the Head Office were assessed. The assessment was made through interviews with managers responsible for each task, and those who were responsible for the preparation of the reports, based on materials and explanations provided, and by checking evidence and on-site confirmation.
- Numerical values and information provided in the report were verified by sampling.

■ Views and Comments

- 1) The reasonableness of the methods used to calculate and aggregate performance indicators (numerical values), and the accuracy of numerical values
 - Both the Head Office and Chiba Plant applied rational methods to calculate and aggregate numerical values. Within the scope of the assessment, the performance values were accurately calculated and aggregated by comparing them with values of the previous fiscal year, comparing them with production volumes, and using different colors to indicate input errors made in the past to alert reporters to them.
 - We were told that the group was considering developing a more rational calculation system, for labor-saving and other purposes. It is hoped that a new system will be implemented at the earliest possible time.
- 2) The accuracy of reported information other than numerical values
 - It was confirmed that the information described in the reports was accurate. At the draft stage, we pointed out some parts that needed to be improved in terms of the appropriateness of descriptions or the intelligibility of sentences. In this report, however, these points have been edited and there are no parts that must be corrected.
- 3) Details of Responsible Care activities and CSR activities
 - As of this fiscal year, you have started publishing the CSR Report both in paper and online versions to help readers more easily understand the Nippon Soda Group's CSR activities while at the same time improving transparency and fulfilling accountability. We value your efforts in this regard. To improve the online version, which is intended to supplement the paper version, it is hoped that more detailed explanations of actual performance values will be added.
 - The number of occupational accidents in FY 2018 increased from the previous fiscal year. It is hoped that, toward the 100th anniversary, top management will show strong leadership in preventing accidents and disasters to raise every employee's awareness and motivate them to make more efforts to prevent accidents and disasters.
 - Chiba Plant has achieved zero accidents for a continuous 13 years and 11 months, which we commend. It is hoped that Chiba Plant's efforts in preventing occupational accidents will also be applied at other worksites.
- 4) Characteristics of the report
 - As part of your “CSR activities to improve the corporate value,” you regularly hold dialogues with experts in identifying materiality and conducting assessment using KPIs. The detailed information on these dialogues and the progress of KPIs are provided in the report, which we commend.

Shigeki Nagamatsu
Chief Director, Responsible Care Verification Center
Japan Chemical Industry Association

SOMPO Risk Management & Health Care Inc.

Opinion on Property Conservation Survey



March 16, 2018

Akira Ishii

Representative Director and President
Nippon Soda Co., Ltd.**Written Opinion on Property Conservation Survey**

Dear Mr. Ishii,

Below are a summary and our opinion on the property conservation survey

The objective of a property conservation survey is to provide recommendations for improvement that are aimed to help enhance each facility's voluntary disaster prevention level. The recommendations proposed are based on on-site surveys and interviews from 6 aspects, including fire risk and disaster prevention equipment.

■Survey flow

The surveys focused on the following aspects: "surrounding environment", "building", "fire risk", "disaster prevention equipment", "fire management" and "natural hazards". Follow-up of improvement progress for recommendations made during previous surveys is also confirmed during these surveys.

Survey schedule and surveyed properties for FY 2017

Chiba Plant	1st FC Group	2017/6/2
Takaoka Plant	2nd Organic Group, Medicine Manufacturing Group	2017/9/28-29
Nihongi Plant	Specialty Chemicals Group, FC Group	2017/11/21-22
Odawara Research Center	All area of Laboratory	2017/9/1
Chiba Research Center	All area of Laboratory	2017/10/20
Nisso Metallochemical Co., Ltd. Aizu Plant	1st Environment Group, Metal Group	2017/5/25-26
Nisso Fine Co., Ltd. Koriyama Plant	Koriyama Plant	2017/6/23

■Survey observation and opinion

[Overall]

We recognize that a continuous PDCA cycle for improving CSR, through establishing of improvement plans (Plan), execution (Do), followed by quantitative/qualitative evaluation (Check), and improvement measures based on evaluation results (Act) that ties to the next fiscal year's new plan, is well established at each facility of Nippon Soda Group.

Good practices and improvement recommendations for each location are as follows:

1. [Nippon Soda, Chiba Plant] The risk of fire caused by a discharge of static electricity at the tank lorry dock is decreased by arranging the pump to start only when the tank lorry has been connected to the grounding wire for at least 15 minutes. On the other hand, the presence of duct and piping between heads of fixed firefighting system will obstruct the heads' water discharge pattern, hinder the effect of firefighting system. Thus, it is recommended to rearrange the placement of heads.
2. [Nippon Soda, Takaoka Plant] The risk of dust fire is reduced through enhancing cleaning of production equipment and inside of ducts. It is recommended to clearly define the operation procedure and delay time of the manual activation device to the carbon dioxide fire extinguishing equipment.
3. [Nippon Soda, Nihongi Plant] Foam fire extinguishing equipment is installed to each plant facility, and the foam fire extinguishing agent regularly replaced. It is recommended to repair the damaged protection cap to an outdoor fire hydrant to prevent foreign object from entering the hydrant and hinder water discharge.
4. [Nippon Soda, Odawara Research Center] Various gas-type firefighting equipment is installed to designated rooms and equipment. It is recommended that different types of fire extinguishers be stored separately to avoid the use of an inappropriate type of fire extinguisher, which may result in rapid expansion of fire.
5. [Nippon Soda, Chiba Research Center] A flow monitor is installed to allow visual confirmation of ventilation inside the draft chamber. It is recommended to replace the flickering fluorescent lights to avoid ignition from overheating of ballast(s).
6. [Nisso Metallochemical, Aizu Plant] A separation wall, to prevent fire spread, and water mist firefighting system were installed as measures against the reoccurrence of fires. It is recommended to install gas detectors near areas that use gas.
7. [Nisso Fine, Koriyama Plant] Toluene and methanol piping have been renewed, thus decreasing the risk of leakage and fire due to aging deterioration of pipes. It is recommended to install foam heads above the reaction vessel that are currently not protected by foam firefighting system.

Sincerely,

Yasushi Fuse
Representative Director and President
Sompo Risk Management & Health Care Inc.

SOMPO Risk Management & Health Care Inc.

Opinion on the Occupational Health and Safety Survey



March 16, 2018
Akira Ishii
Representative Director and President
Nippon Soda Co., Ltd.

Written Opinion on Occupation Health and Safety Survey

Dear Mr. Ishii,

Below are a summary and our opinion on the occupational health and safety survey

■Survey objective

The objective of this survey is to reduce risk on-site by assisting persons in charge of the manufacturing unit (FC Group and NBL Group) of Takaoka Plant to identify high-risk areas and unsafe work practices by themselves.

■Survey flow

The above mentioned workplaces were surveyed on December 13-14, 2018 for the following items and its results were reported.

“Confirm safety organization during opening meeting”, “confirm relevant documents”, “identify risk on-site by both Sompoo Risk Management & Health Care (SRC) and persons in charge at each workplace”, and “explain different point of views between SRC and persons in charge, and provide recommendations to further enhance safety awareness”.

As a part of On the Job Training (OJT), the survey was carried out not only by a surveyor from SRC but also includes the participation of persons in charge on-site.

■Safety organization

- Establishment of safety management organization and education system were confirmed on-site through available documents such as “work operation standard (emergency procedure)”, “hazard identification risk assessment table”, and various educational materials.
- A high level of safety awareness was shown in documents such as the work instruction form, which states that operation should be halted and restart after hazard prediction (Kiken Yochi) is done in the event of an unexpected incident instead of forcibly resume operation.

■Comment on on-site On the Job Training (OJT)

- Persons in charge of the above mentioned workplaces have demonstrated that they possess basic risk identification skills, through their identification of dangerous areas, good practices, etc. In addition, in this OJT gave an opportunity for the persons in charge to clarify areas that they had trouble recognizing risks in the past.
- In some instances, the participants were not able to recognize the risks present. It is recommended that they take another step and evaluate the surrounding as well. This will help them to identify risk factors arising from different scenarios, which will further enhance the Plant’s safety.

Ex) Personal protective equipment were worn during parts cleaning, thus this operation was not recognized as dangerous.

⇒The following risks also exist: “risk of washing fluid containing chemical splattering onto nearby staff during washing”, “risk of chemical injury when protective equipment are not properly cleaned after each wear”, etc.

- It is recommended that the above be implemented across other workplaces as well, to further enhance the safety awareness of the entire Plant.

Sincerely,

Yasushi Fuse
Representative Director and President
Sompoo Risk Management & Health Care Inc.

Third-party Opinion/Response to the Third-party Opinion

We sought a third-party opinion from an expert to identify new issues related to CSR.

This year's CSR Report features a significantly reduced number of pages compared to the previous reports and an emphasis on "CSR activities to improve the corporate value." Data that should be disclosed are provided on the website, which meets the needs of the ESG era. The four special sections, each of which deals with one of the four priority issues of your company, convey very well the social implications of your company's business. Chemical manufacturers tend to create significant social value in the process of using their products. In this respect, I think that placing an emphasis on this matter is an appropriate way to communicate with stakeholders. The report also contains digital technology-related information, including the application of drones and 3-D printers, in which stakeholders may show an interest, and "Society 5.0," indicating the promising future of your company.

In terms of CSR, while it is important to focus on positive impacts on society, it is also important to convey how you regard negative impacts and how you address them. I think your company should also disclose information on negative impacts and concerns expressed by stakeholders. Through communicating these negative aspects, I'm sure that you can further promote CSR activities in a true sense and will gain higher levels of trust from stakeholders. With regard to SDGs, it is necessary to determine how you are contributing to addressing them on a target level.

In addition to the four priority issues, the CSR Report focuses on diversity promotion in the Top Commitment section and efforts to achieve a low-carbon society in the Business and CSR section. I think these two issues should also be included in the list of priority issues. In this regard, you should sort out priority issues in a more organized manner.

In conclusion, as summarized in the comment in the Stakeholder Dialogue section, you need to place importance on developing a long-term story and a long-term vision in order to fulfill the current standards of corporate social responsibility, which require achieving the Paris Agreement goals and Sustainable Development Goals (SDGs). In addition to my proposals stated above, I encourage you to design your CSR strategy from a long-term perspective to make CSR activities more sophisticated.



Takehiko Mizukami

Vice President
Japan CSV Business Development
Organization

Born in Himi City, Toyama Prefecture in 1966. After taking charge of aviation deregulation, aviation negotiations between Japan and the U.S., and other duties at the Ministry of Transport (the present Ministry of Land, Infrastructure, Transport and Tourism), he worked on business strategy planning projects, mainly in the manufacturing industry, at Arthur D. Little, an international management consulting firm. He completed his education at the Tokyo Institute of Technology, Graduate School of the Tokyo Institute of Technology and Harvard Kennedy School in the U.S. A leading person in CSV research in Japan.

Response to the third-party opinion from an expert

In the expert dialogue held in August 2015, we identified material issues, based on which the current CSR activities have been implemented. For this year's CSR report, we sought third-party opinions from Mr. Mizukami, who participated in this expert dialogue.

I appreciate his understanding and assessment of our CSR activities and other aspects of our performance presented in the report. In recent years, we have been focusing our efforts on "CSR activities to improve the corporate value" and disseminating relevant information. As Mr. Mizukami noted in his comment, I also think it is important and meaningful in our CSR activities to identify and address negative impacts caused by our business and to widely provide information on our efforts in this matter. We will consider incorporating this perspective in our CSR efforts. We will also consider how to contribute to SDGs on a target level, including a review of KPIs. We will additionally sort out our priority issues in a more organized manner, as proposed by Mr. Mizukami, and promote our CSR activities based on a long-term story and vision so that our CSR activities will be made more sophisticated.



Masahito Ikeda, Ph.D.

Executive Officer
General Manager
Corporate Social Responsibility
Department, Nippon Soda Co., Ltd.

Comparative Table with GRI Standards

This report is prepared in reference to the GRI content index and in accordance with the Core option of the GRI Standards.

GENERAL DISCLOSURES		
GRI 102: GENERAL DISCLOSURES 2016		Pages in the online version, corresponding reports and items
102-1	Name of the organization	p. 6
102-2	Activities, brands, products, and services	p. 6
102-3	Location of headquarters	p. 6
102-4	Location of operations	pp. 6-7
102-5	Ownership and legal form	p. 6
102-6	Markets served	p. 6
102-7	Scale of the organization	pp. 6-7
102-8	Information on employees and other workers	pp. 63-66
102-9	Supply chain	p. 8
102-10	Significant changes to the organization and its supply chain	pp. 7-8
102-11	Precautionary Principle or approach	pp. 22-23, pp. 77-82
102-12	External initiatives	p. 76
102-13	Membership of associations	p. 76
102-14	Statement from senior decision-maker	p. 2
102-15	Key impacts, risks, and opportunities	p. 2, pp. 9-12
102-16	Values, principles, standards, and norms of behavior	p. 3, p. 79
102-17	Mechanisms for advice and concerns about ethics	p. 66, p. 79
102-18	Governance structure	pp. 77-78
102-19	Delegating authority	p. 21, p. 77, p. 81
102-20	Executive-level responsibility for economic, environmental, and social topics	p. 21, p. 77
102-21	Consulting stakeholders on economic, environmental, and social topics	p. 21
102-22	Composition of the highest governance body and its committees	p. 21, pp. 77-81
102-23	Chair of the highest governance body	p. 77
102-24	Nominating and selecting the highest governance body	p. 77
102-25	Conflicts of interest	p. 77
102-26	Role of highest governance body in setting purpose, values, and strategy	p. 2, p. 21, p. 77
102-27	Collective knowledge of highest governance body	p. 2, p. 9
102-28	Evaluating the highest governance body's performance	p. 21, p. 77
102-29	Identifying and managing economic, environmental, and social impacts	p. 4, p. 8, pp. 11-14
102-30	Effectiveness of risk management processes	pp. 20-21
102-31	Review of economic, environmental, and social topics	p. 21
102-32	Highest governance body's role in sustainability reporting	p. 21
102-33	Communicating critical concerns	p. 21, p. 77, p. 81
102-34	Nature and total number of critical concerns	—
102-35	Remuneration policies	Only for Japanese edition
102-36	Process for determining remuneration	Only for Japanese edition
102-37	Stakeholders' involvement in remuneration	—
102-38	Annual total compensation ratio	—
102-39	Percentage increase in annual total compensation ratio	—
102-40	List of stakeholder groups	p. 5, p. 8, p. 76
102-41	Collective bargaining agreements	p. 66
102-42	Identifying and selecting stakeholders	p. 5
102-43	Approach to stakeholder engagement	pp. 13-14, p. 72, p. 76
102-44	Key topics and concerns raised	pp. 15-18, p. 23
102-45	Entities included in the consolidated financial statements	Annual Report
102-46	Defining report content and topic Boundaries	p. 1, pp. 20-21
102-47	List of material topics	p. 4, pp. 12-14, p. 20, pp. 26-27
102-48	Restatements of information	N/P
102-49	Changes in reporting	pp. 12-13
102-50	Reporting period	p. 1
102-51	Date of most recent report	p. 1
102-52	Reporting cycle	p. 1
102-53	Contact point for questions regarding the report	Back cover of the paper version of the CSR Report 2018
102-54	Claims of reporting in accordance with the GRI Standards	Comparative Table with GRI Standards
102-55	GRI content index	p. 1, Comparative Table with GRI Standards
102-56	External assurance	p. 94

MATERIAL ISSUES		
GRI 103: MANAGEMENT APPROACH 2016		
103-1	Explanation of the material topic and its Boundary	p. 4, pp. 10-14, p. 40, p. 43, p. 51, p. 55, p. 57, p. 60, p. 63, p. 67, p. 69, p. 71, p. 77
103-2	The management approach and its components	p. 12, p. 22, pp. 26-27
103-3	Evaluation of the management approach	pp. 26-27
ECONOMIC		
GRI 201: ECONOMIC PERFORMANCE 2016		
201-1	Direct economic value generated and distributed	p. 6, Annual Report
201-2	Financial implications and other risks and opportunities due to climate change	
201-3	Defined benefit plan obligations and other retirement plans	Only for Japanese edition
201-4	Financial assistance received from government	
MARKET PRESENCE		
GRI 202: MARKET PRESENCE 2016		
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	p. 71
202-2	Proportion of senior management hired from the local community	
INDIRECT ECONOMIC IMPACTS		
GRI 203: INDIRECT ECONOMIC IMPACTS 2016		
203-1	Infrastructure investments and services supported	
203-2	Significant indirect economic impacts	
PROCUREMENT PRACTICES		
GRI 204: PROCUREMENT PRACTICES 2016		
204-1	Proportion of spending on local suppliers	
ANTI-CORRUPTION		
GRI 205: ANTI-CORRUPTION 2016		
205-1	Operations assessed for risks related to corruption	p. 23
205-2	Communication and training about anti-corruption policies and procedures	
205-3	Confirmed incidents of corruption and actions taken	
ANTI-COMPETITIVE BEHAVIOR		
GRI 206: ANTI-COMPETITIVE BEHAVIOR 2016		
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	
MATERIALS		
GRI 301: MATERIALS 2016		
301-1	Materials used by weight or volume	
301-2	Recycled input materials used	
301-3	Reclaimed products and their packaging materials	
ENERGY		
GRI 302: ENERGY 2016		
302-1	Energy consumption within the organization	p. 83
302-2	Energy consumption outside of the organization	
302-3	Energy intensity	p. 83
302-4	Reduction of energy consumption	p. 83
302-5	Reductions in energy requirements of products and services	
WATER		
GRI 303: WATER 2016		
303-1	Water withdrawal by source	p. 84
303-2	Water sources significantly affected by withdrawal of water	
303-3	Water recycled and reused	
BIODIVERSITY		
GRI 304: BIODIVERSITY 2016		
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	
304-2	Significant impacts of activities, products, and services on biodiversity	
304-3	Habitats protected or restored	p. 42
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	
EMISSIONS		
GRI 305: EMISSIONS 2016		
305-1	Direct (Scope 1) GHG emissions	p. 83
305-2	Energy indirect (Scope 2) GHG emissions	p. 83
305-3	Other indirect (Scope 3) GHG emissions	
305-4	GHG emissions intensity	
305-5	Reduction of GHG emissions	pp. 83-84
305-6	Emissions of ozone-depleting substances (ODS)	p. 84

305-7	Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	p. 84
EFFLUENTS AND WASTE		
GRI 306: EFFLUENTS AND WASTE 2016		
306-1	Water discharge by quality and destination	p. 84
306-2	Waste by type and disposal method	pp. 83-84
306-3	Significant spills	p. 26
306-4	Transport of hazardous waste	p. 26, p. 41, pp. 83-84
306-5	Water bodies affected by water discharges and/or runoff	p. 42
ENVIRONMENTAL COMPLIANCE		
GRI 307: ENVIRONMENTAL COMPLIANCE 2016		
307-1	Non-compliance with environmental laws and regulations	p. 26, p. 48, p. 85
SUPPLIER ENVIRONMENTAL ASSESSMENT		
GRI 308: SUPPLIER ENVIRONMENTAL ASSESSMENT 2016		
308-1	New suppliers that were screened using environmental criteria	
308-2	Negative environmental impacts in the supply chain and actions taken	p. 48
EMPLOYMENT		
GRI 401: EMPLOYMENT 2016		
401-1	New employee hires and employee turnover	p. 65
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	
401-3	Parental leave	p. 65
LABOR/MANAGEMENT RELATIONS		
GRI 402: LABOR/MANAGEMENT RELATIONS 2016		
402-1	Minimum notice periods regarding operational changes	
OCCUPATIONAL HEALTH AND SAFETY		
GRI 403: OCCUPATIONAL HEALTH AND SAFETY 2016		
403-1	Workers representation in formal joint management-worker health and safety committees	
403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	pp. 52-53
403-3	Workers with high incidence or high risk of diseases related to their occupation	p. 52
403-4	Health and safety topics covered in formal agreements with trade unions	
TRAINING AND EDUCATION		
GRI 404: TRAINING AND EDUCATION 2016		
404-1	Average hours of training per year per employee	
404-2	Programs for upgrading employee skills and transition assistance programs	p. 26, p. 63
404-3	Percentage of employees receiving regular performance and career development reviews	
DIVERSITY AND EQUAL OPPORTUNITY		
GRI 405: DIVERSITY AND EQUAL OPPORTUNITY 2016		
405-1	Diversity of governance bodies and employees	p. 26, pp. 64-65
405-2	Ratio of basic salary and remuneration of women to men	
NON-DISCRIMINATION		
GRI 406: NON-DISCRIMINATION 2016		
406-1	Incidents of discrimination and corrective actions taken	
FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING		
GRI 407: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING 2016		
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	
CHILD LABOR		
GRI 408: CHILD LABOR 2016		
408-1	Operations and suppliers at significant risk for incidents of child labor	
FORCED OR COMPULSORY LABOR		
GRI 409: FORCED OR COMPULSORY LABOR 2016		
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	
SECURITY PRACTICES		
GRI 410: SECURITY PRACTICES 2016		
410-1	Security personnel trained in human rights policies or procedures	
RIGHTS OF INDIGENOUS PEOPLES		
GRI 411: RIGHTS OF INDIGENOUS PEOPLES 2016		
411-1	Incidents of violations involving rights of indigenous peoples	
HUMAN RIGHTS ASSESSMENT		
GRI 412: HUMAN RIGHTS ASSESSMENT 2016		
412-1	Operations that have been subject to human rights reviews or impact assessments	
412-2	Employee training on human rights policies or procedures	p. 66
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	

LOCAL COMMUNITIES		
GRI 413: LOCAL COMMUNITIES 2016		
413-1	Operations with local community engagement, impact assessments, and development programs	p. 26, pp. 72-73, p. 76
413-2	Operations with significant actual and potential negative impacts on local communities	p. 26, pp. 86-87, pp. 90-93
SUPPLIER SOCIAL ASSESSMENT		
GRI 414: SUPPLIER SOCIAL ASSESSMENT 2016		
414-1	New suppliers that were screened using social criteria	
414-2	Negative social impacts in the supply chain and actions taken	
PUBLIC POLICY		
GRI 415: PUBLIC POLICY 2016		
415-1	Political contributions	
CUSTOMER HEALTH AND SAFETY		
GRI 416: CUSTOMER HEALTH AND SAFETY 2016		
416-1	Assessment of the health and safety impacts of product and service categories	p. 26, p. 56, pp. 95-96
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	p. 26, p. 56
MARKETING AND LABELING		
GRI 417: MARKETING AND LABELING 2016		
417-1	Requirements for product and service information and labeling	p. 55, 57
417-2	Incidents of non-compliance concerning product and service information and labeling	p. 26, p. 56
417-3	Incidents of non-compliance concerning marketing communications	
CUSTOMER PRIVACY		
GRI 418: CUSTOMER PRIVACY 2016		
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	N/P
SOCIOECONOMIC COMPLIANCE		
GRI 419: SOCIOECONOMIC COMPLIANCE 2016		
419-1	Non-compliance with laws and regulations in the social and economic area	p. 80

Comparative Table with ISO 26000

The following table is a list of activities of the Nippon Soda Group corresponding to the seven core subjects in ISO 26000: Guidance on social responsibility:

Core subjects	Issues	Activities
Organizational governance	Organizational governance	Top Commitment
		Business and CSR of the Nippon Soda Group
		Value Creation of the Nippon Soda Group
		CSR Management
		Governance/Compliance/Risk Management
Human rights	Due diligence	—
	Human rights risk situations	Respect for Human Rights
	Avoidance of complicity	Respect for Human Rights
		Strengthening Relationships with Our Business Partners (Efforts in Procurement)
	Resolving grievances	Code of Conduct
		Risk Management
	Discrimination and vulnerable groups	External Communication
		Respect for Human Rights
	Civil and political rights	Promotion of Diversity
Economic, social and cultural rights	Code of Conduct	
Fundamental principles and rights at work	Respect for Human Rights	
Labor practices	Employment and employment relationship	Respect for Human Rights
		Code of Conduct
	Conditions of work and social protection	Human Resources Development
		Promotion of Diversity
	Social dialogue	Promotion of Diversity
		Improvement of Employee Satisfaction
	Health and safety at work	Labor-management Relations and Improvement of Working Conditions
Employee Satisfaction Survey		
Human development and training in the workplace	Occupational Safety and Health	
	Process Safety & Disaster Prevention/BCP	
Environment	Prevention of pollution	Distribution Safety
		Special Section: Initiatives for the next generation
	Sustainable resource use	Nippon Soda Group's Human Resources Development
		Environmental Protection: Atmosphere and water area protection
Climate change mitigation and adaptation	ESG Data (Environment)	
	Environmental Protection: Effective use of resources and reduction of waste	
Protection of the environment, biodiversity and restoration of natural habitats	ESG Data (Environment)	
	Environmental Protection: Responses to climate change issues	
Fair operating practices	Anti-corruption	ESG Data (Environment)
	Responsible political involvement	Preservation of Biodiversity
		Compliance
	Fair competition	Code of Conduct
		Code of Conduct
	Promoting social responsibility in the value chain	Code of Conduct
		Efforts in Procurement
		Business and CSR of the Nippon Soda Group
Business Activities and Value Chains		
Occupational Safety and Health		
Respect for property rights	Process Safety & Disaster Prevention/BCP	
	Efforts in Procurement	
	Chemicals and Product Safety	
Consumer issues	Fair marketing, factual and unbiased information and fair contractual practices	Dialogue with Business Partners
		Dialogue with Investors, Analysts and Shareholders
	Protecting consumers' health and safety	Code of Conduct
		Communication with Customers
	Sustainable consumption	Distribution Safety and Quality Assurance
		Chemicals and Product Safety
		Special Section: Health Care—A healthy life supported by medicines
	Consumer service, support, and complaint and dispute resolution	Special Section: Agriculture—Efforts to achieve sustainable agriculture
Special Section: Environment—Achievement of the environmentally sound recycling of resources		
Consumer data protection and privacy	Consideration in Animal Experiments	
	Quality Assurance	
Access to essential services	Chemicals and Product Safety	
	Improve Customer Satisfaction	
Community involvement and development	Education and awareness	Proper Management of Personal Information
		Improve Customer Satisfaction
	Community involvement	Special Section: Agriculture—Seminars on the proper use of agrochemicals
		Improve Customer Satisfaction, Communication with Customers
	Education and culture	Harmonious Relationship with Local Communities
	Employment creation and skills development	Dialogue with Local Communities
Technology development and access	CSR Activities	
Health	—	
Social investment	Development of Products Useful to Society	
	Contribution to Local Employment	
	CSR Activities	
	CSR Activities	