

## Nippon Soda Group

CSR Report 2019

Corporate Social Responsibility Report





# NISSO

# To Create New Value through the Power of to Society through Products as a Chemical

#### Priority issues addressed by the Nippon Soda Group

- Agriculture Contribution to ensuring food safety and security and sustainable agriculture using agrochemicals
- Health care **—** Contribution to ensuring health for all people through pharmaceuticals
- Environment Contribution to ensuring the environmentally sound recycling of resources using chemistry (technical competence)
  - Contribution to sustainable plant protection
- Information Contribution to the development of information equipment friendly to the environment and people by supplying high-function materials

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#### Scope of the Report

This report summarizes the 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 2019 (April 1, 2018 to March 31, 2019). The data on occupational accidents presented in this report are based on the actual results from January 1, 2018 to December 31, 2018. 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

#### Publication Date

September 2019

(Next report scheduled to be issued in September 2020)

#### Responsible Care

Responsible Care (RC) was launched in 1985 in Canada. The International Council of Chemical Associations (ICCA) was established in 1989 and more than 65 countries and regions around the world follow Responsible Care practices.

#### International Standards Certifications

GOAL

- ISO 14001 is the international standard of the International Organization for Standardization (ISO) for environmental management systems (EMS). It specifies requirements for an environmental management system.
- ISO 9001 is the international standard of the International Organization for Standardization (ISO) for quality management systems (QMS). It specifies requirements to enhance customer satisfaction, including quality assurance.
- OHSAS 18001, the abbreviation of Occupational Health and Safety Assessment Series 18001, is the international standard for occupational safety and health management systems (OSHMS). The objective of OHSAS 18001 is to help companies reduce risks and the recurrence of problems by

# Chemistry and Contribute Group Company

#### Management philosophy

With a primary emphasis on sound and transparent business management in compliance with laws and regulations, Nippon Soda contributes to social development by providing superior products through "chemistry," meets expectations from stakeholders, including shareholders, business partners, employees and local communities, and promotes environmentally conscious business practices and activities.

#### Basic principles of management

Under the philosophy above, Nippon Soda is committed to growing into a technology-oriented group that develops high value-added products by making best use of proprietary technologies and expands business internationally with a focus on chemistry. We also strive to enhance the Group's revenue by developing our businesses with a focus on the chemicals industry in such areas as commercial distribution, logistics, and engineering.

identifying risks related to occupational safety and employee hygiene, developing preventive measures, and implementing these measures (achieving continuous improvement).

ISO 26000 is an international standard on social responsibility for organizations released by the International Organization for Standardization on November 1, 2010.

[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.

#### Editorial Policy

This report is designed to provide information on the Nippon Soda Group's basic concept of CSR and related activities in an easy-to-understand manner, mainly in connection with three core issues: "CSR activities to improve corporate value," "CSR activities to protect corporate value" and "social activities."

We started publishing detailed information that supplements this report on our website. The results of the Nippon Soda Group's CSR activities are thus reported both in a booklet and via the website. With a focus on transparency and accountability, we designed this report to help readers more easily understand the Nippon Soda Group's CSR activities.

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Opinion



# Fulfilling the Dreams of the Next Generation

Akira Ishi a Co. Ltd

Nippon Soda will continue to generate innovations that help realize the dreams of the next generation and contribute to achieving a sustainable society.

#### Nippon Soda's business and CSR

FY 2020 is the final year of the medium-term business plan (FY 2018 - FY 2020) that covers the period until 2020, the year that marks the 100th anniversary of the company's foundation. We have been implementing a three-year plan setting out our goals of becoming an ideal company by the centennial anniversary, which is specified in the long-term vision "Chemigress to 100,"\* and accelerating structural reforms to further increase the value of our business. More specifically, under the themes of "speed and reform," we are expanding our existing businesses, creating new businesses, promoting development, and enhancing the Group's business foundation, as well as implementing a three-year investment plan worth 50 billion yen for future growth.

CSR is essential to the continued existence of our company. In our efforts to further develop CSR management, we have primarily allocated corporate resources to the following four priority domains: agriculture, health care, the environment and information. With these resources, we have been focusing simultaneously on solving social issues and increasing corporate value through products and solutions by taking advantage of changes in society, the economy and the environment. With the aim of improving our sustainable corporate value, we have also integrated our management strategies and CSR-oriented business management, with our major emphasis on the following three categories of activities: "CSR activities to protect corporate value," "CSR activities to improve corporate value" and "social activities."

The Heisei era, which lasted 30 years, has ended and the Reiwa era has begun. At this time of significant transition, to make FY 2020 a turning point for the further development of the Nippon Soda Group, we will ask all of the Group's employees to join forces and concentrate every possible effort on achieving the aforementioned strategies, and devise strategies for the progress of a new stage of growth in 2020 and beyond.

#### For further improvement in diversity and governance practices

Diversity is one of our primary strategies to maintain our high level of global competitiveness and keep growing in a sustainable way. Creating a diverse work environment and organization where all employees are given opportunities to demonstrate their individual abilities and work positively in response to a changing environment will lead to innovation. As a chemical group company providing products and solutions useful to address social issues in international settings, we make particular efforts to ensure the compliance of business activities with the Corporate Governance Code and high corporate ethical standards to further improve our corporate governance system in such a way as to meet stakeholders' expectations.

Nippon Soda will continue to contribute to building a sustainable society through generating innovations that help realize the dreams of the next generation and persistent efforts to address environmental changes.

#### Value Creation and CSR Management

The Nippon Soda Group further develops CSR management and, as a chemical group, creates new value



Corporate governance (business management)

(\*) "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 businesses of our Group toward the 100th anniversary.

The Nippon Soda Group recognizes the impact on society and the environment and its social responsibility as a chemical manufacturer. We ensure a steady commitment to materiality so we can contribute to creating a sustainable society and environment.

Nippon Soda's CSR and the basic concept

We are working to improve our 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 the global environment. To achieve these goals, we are advancing the following initiatives.

- 1. CSR activities to protect corporate value<sup>1</sup> Pursuit of economic performance, and activities to ensure safety, environmental friendliness, quality assurance, etc.
- 2. CSR activities to improve corporate value<sup>2</sup> 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, business partners, employees, 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 to develop as a sought-after chemical group that meets 21st-century social needs by consistently offering creative and unique technologies and products that contribute to the creation of an enriching society that is able to realize the dreams of the next generation.

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

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

#### **Stakeholders**

The management philosophy of the Nippon Soda Group states that the Group will 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 all social responsibilities to stakeholders.

communication





Nippon Soda's CSR and the Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs) comprising 17 goals and 169 targets were adopted in 2015 at the United Nations Headquarters in New York.

As part of our efforts to conduct CSR activities to improve corporate value, the Nippon Soda Group states in the basic policies for CSR that, through business, the company will make contributions toward resolving social issues to help achieve the development of a sustainable society. In this way, the Nippon Soda Group strives to contribute to meeting nine of the goals included in the SDGs through the use of our products. These are Goal 2: Zero hunger; Goal 3: Good health and well-being; Goal 6: Clean water and sanitation; Goal 9: Industry, innovation and infrastructure; Goal 11: Sustainable cities and communities; Goal 12: Responsible consumption and production; Goal 13: Climate action; Goal 15: Life on land; and Goal 17: Partnerships for the goals. One company cannot tackle all of the SDGs alone, but if



many 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.



## Materiality and KPIs within the Four Domains of CSR Defined in the CSR Basic Policies.

For the progress of efforts to address materiality issues, refer to the CSR Information page web on the Nippon Soda website. (to be posted in August 2019)

#### Materiality Identification Process

#### Step 1 Identification and prioritization

- 1 The material issue for the Nippon Soda Group in CSR activities to protect corporate value is defined as continuous efforts to minimize impact 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 CSR activities to improve the corporate value were identified in line with the GRI G4 guidelines, the ISO 26000 guidelines and the SDGs. In the prioritization step, the materiality was assessed from two aspects-the materiality to stakeholders and the materiality to the Nippon Soda Group-and issues ranked high in both aspects 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 see 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 care,\* the environment and information.

(\*) For the health care domain, materiality issues were identified in 2017.

#### (December 8, 2015) ►

- For details, please refer to CSR Report 2016 on pages 13 and 14.
- (December 9, 2016) ► For details, please refer to CSR Report 2017 on pages 25 through 28.
- (December 8, 2017) ▶ For details, please refer to CSR Report 2018 on page 10 and its online version.

(December 12, 2018) ►

For details, please refer to CSR Report 2019 on pages 9 and 10, and the online version.

#### Major opinions

#### (What should be considered, their expectations, etc.)

- Every 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.

				o be posted in August 2019)
	Domain	Materiality		KPI
	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) <sup>1</sup>	p.11	<ol> <li>Seminar hosting situation</li> <li>Situation of initiatives</li> <li>Situation of initiatives</li> </ol>
alue	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
CSR activities to improve corporate value	Environment	Contribution to ensuring the environmentally sound recycling of resources using chemistry (technical competence) (1) Steady supply of water resources (2) Reduction of environmental impact caused by waste Contribution to sustainable plant protection	p.13	(1) The amount of supplied water (2) Situation of contribution
improve	Information	<ul> <li>(1) Protection of precious trees such as pines from harmful insects</li> <li>Contribution to the development of information equipment friendly to the environment and people by supplying high-function materials</li> <li>(1) Supply of high-function materials friendly to the environment and people</li> </ul>	p.14	<ol> <li>Situation of contribution</li> <li>Number of portable communication terminals using our products</li> </ol>
tivities to		Contribution to addressing climate change by supplying low-carbon products (1) Contribution to achieving a low-carbon society by supplying low-carbon products		(1) Change in the number of low-carbon products Situation of progress Situation of contribution
CSR act	Initiatives for the next generation	Achieving goals through partnerships that cannot be done by Nippon Soda Group alone (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	web	<ol> <li>(1) Situation of progress</li> <li>(1) Results of education</li> <li>(1) Situation of research</li> </ol>
vities to protect corporate value	Environmental protection	(1) Environmental Issues     (2) Energy     i. Energy use per unit of production     ii. Energy use per unit of transportation     (3) Reduction in greenhouse gas emissions     (4) Waste     i. Amount of final disposal as landfill     ii. Zero emissions	p.15	(1) Number of legal violations     (2) Amount of consumption     i. Per unit of production     ii. Per unit of transport     (3) Amount of emissions     (4)     i. Amount of waste to landfill     ii. Zero emissions ratio
ect co	Process safety and	<ul><li>(5) Emissions of harmful substances into the atmosphere</li><li>(6) Reduction of impact on biodiversity and ecosystems</li><li>(1) Major accidents at facilities</li></ul>	10	(5) Amount of emissions (6) Situation of initiatives (1) Number of accidents
to pro	disaster prevention/BCP Occupational safety and	<ul> <li>(2) Maintenance and improvement of a business continuity plan (BCP)</li> <li>(1) Occupational accidents         An absence from work/no absence     </li> </ul>	p.16	<ul><li>(2) Situation of BCP improvement</li><li>(1) Number of occupational accidents</li></ul>
ities	health	(2) Health promotion (1) Distribution-related complaints	pro	(2) Number of incidences of personal injury and illness (1) Number of distribution-related
acti	Distribution safety and quality assurance	(2) Product-related complaints	p.18	(1) Number of distribution related complaints (2) Number of product-related complaints
CSR	Chemicals and product safety (1) Compliance with chemical-related laws and regulations		p.19	(1) Number of legal violations
	Together with our customers (Consumer issues) (1) Consumer issues		p.20	(1) Level of understanding of issues
es	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 for diversity (2) Results of survey on employees' satisfaction with their workplace
Social activities	Together with our business partners (Fair operating practices)	(1) Business partners	p.22	(1) Situation on compliance with code of conduct
cial a	Together with our shareholders	(1) Shareholders	p.23	(1) Situation of dialogues
Soc	Together with our local communities (Community involvement and development, social dialogue)	<ol> <li>Local gatherings, community involvement</li> <li>Legal and other requirements</li> <li>Creation of more opportunities for stakeholder engagement</li> </ol>	p.24	<ul><li>(1) Number of dialogues' involvement and details</li><li>(2) Situation of deviations</li><li>(3) Number of engagements and</li></ul>
Governance	Corporate governance			details (1) Governance structure
	Compliance	(1) Legal compliance		(1) Violations of laws and regulations

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

#### Stakeholder Dialogue (Digest)

(\*) Below is a digest of the stakeholder dialogue.

A stakeholder dialogue was held 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 in achieving a sustainable society.

# Materiality essential to sustainable development

Nippon Soda (\*) The positions and job titles of the participants are those effective as of December 2018.





Norivuki 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 Departmen



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

## Environmental and social issues that significantly affect the sustainability of business models

What kind of long-term impact will environmental and social issues have on business activities?

- Understand social issues from a global perspective, such as decline in the working population, aging population and declining birth rates in some regions, coupled with population explosion on a global scale.
- In addition to contributions to securing food sources (stable food yields) using agrochemicals, we are considering promoting innovation by taking advantage of the strengths of our existing businesses through promoting research and development covering the entire agricultural value chain. We understand there are high expectations from users for labor saving and safe agriculture.
- For example, we believe that a new seed treatment technique to coat seeds can contribute not only to reducing farm labor but also reducing the environmental impact of agrochemicals. We will consider partnerships with other companies to further expand the application of the technique globally.

## Potential "game change" and transformation 2

If a "game change" occurs, how would business activities need to change?

- The regional characteristics of agriculture will significantly change due to climate change. The types of agrochemicals may also need to change, which can provide new business opportunities. In 2015, we opened the Sarabetsu Experiment Field in Sarabetsu Village in Hokkaido by taking into account environmental issues, where researchers have started research on the influence of regional climate and the new potential of agrochemicals.
- In the domains of information and health care in the chemicals business, we will continue to serve as a material manufacturer with emphasis on addressing issues to respond to market demand with resilience. For example, as a world-leading company in terms of technology to make active ingredients of pharmaceutical excipients work, we will create new markets by "multiplying" this proprietary technology through social change.



## Developing and passing on our corporate philosophy and culture, and improving corporate ethics 3

How have we contributed to social sustainability? How can we achieve a sustainable society?

- power of chemistry.
- ensure their sustainability. In this respect, we have placed emphasis on ensuring compliance.
- functioning corporate governance that responds to the change of the times.

## Expert's viewpoint

## Naomi Yamazaki ·Representative Director, ESG Network of Shareholders & Companies

The Nippon Soda Group undertakes business activities in compliance with corporate ethics. I would like to focus my attention on how the Group understands long-term social changes and what approach it takes to achieve a sustainable society.



- social issues.

Our corporate culture has placed primary emphasis on "safety and quality" for many years. This culture enables us to develop products that fulfill the dreams of the next generation and achieve sustainable growth through the

Both companies and employees are citizens. It is essential for companies to be generally accepted in order to

We will further ensure corporate ethics are observed and will take a backcasting approach to ensuring well-

·Administration Manager, Institutional Investors Collective Engagement Forum

The Group tries to understand the impact of environmental and social issues on business activities from the perspective of opportunities and risks, and not only establishes a system but also creates an organization that functions well.

Significant changes are awaiting agrochemicals. The Group is undertaking transformation efforts in labor saving and streamlining in a way unique to an agrochemical manufacturer, with an eye on a potential "game change" in

Nippon Soda's corporate culture with primary emphasis on safety and quality has served as a source for sustainable growth. Corporate ethics are observed by all of its companies, including overseas group companies.

To steadily promote materiality and risk management, the Company is making well-designed efforts to improve the effectiveness of its corporate governance.

## Agriculture Society5.0 for SDGs Agri Tech

Point

# The Power of Chemistry Efforts to achieve sustainable agriculture

Special

Section



The world population is estimated to increase by about 30%, to exceeding 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 people 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.

#### Practical use of drones in spraying agrochemicals in fields

Conventional farming methods are changing in Japan due to the aging population and declining birth rate. As a measure to address this issue, smart agriculture, which helps reduce the physical burden on farmers, has been drawing attention. Smart farming practices include the use of drones to spray agrochemicals, which not only increases the efficiency of farming activities but also reduces the risk of farmers' exposure to agrochemicals, ensuring safe spraying.

Currently, there has been increasing momentum in the market to promote the use of drones, mainly in wet rice cultivation on flat land where airborne spraying of agrochemicals is relatively effective. Nippon Soda is putting its primary focus on the use of drones on field crops, including potatoes and other root vegetables. We are also studying the practical application of drones for fruit trees that are cultivated in mountainous areas with differences in elevation and narrow plots. We will continue conducting studies on new spraying methods to contribute to promoting smart agriculture.

#### Development of agrochemicals that can be used for a variety of crops

Every agrochemical can be registered for use only for specific crops. If multiple crops are grown within a narrow area, it is necessary to use different pesticides depending on the crops, increasing farmers' workload and costs.

Taking advantage of its many years of experience in agrochemical development, Nippon Soda aims to develop agrochemicals that can be registered for use for a variety of crops. Expanding the scope of target applications allows for effective spraying as well as reduces the risks to nearby crops caused by accidental spraying.

In response to globally increasing awareness of environmental conservation, while placing major emphasis on the chemical pesticides business, we are also focusing on biopesticides. Biopesticides, which control and eliminate diseases and pests in crops using microorganisms and naturally occurring compounds, are suitable for use in fields where higher safety is required. As the reduction of negative impact on ecosystems is a critical issue, we will continue our efforts in developing biopesticides.



#### Publication of Nisso Noyaku Yoran (Nisso Agrochemicals Catalog) on the company's website (Japanese only)

Nisso Noyaku Yoran (Nisso Agrochemicals Handbook) published by Nippon Soda in the form of a booklet has been replaced by an online version since 2018. One of the reasons for the change is that using the booklet form prevented us from providing the most update-to-date information. Another reason is that paperless documentation is environment-friendly, and has been adopted not only by our company but also throughout the entire industry. Information in the online version is updated on the day after a new registration is made. Moreover, a list of QR codes by product is available, which can also be viewed on a smartphone.



 Nisso Noyaku Yoran (Nisso Agrochemicals Catalog) 'Easy Search on Mobile Phone" screenshot

## Health Care Society5.0 for SDGs Health Tech

## The Power of Chemistry A healthy life supported by medicines



Japan is facing a population decline in addition to an accelerated declining birth rate and population aging. Nippon Soda focuses 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.

#### Improvement of access to health care

The need for medical products is increasing on a daily basis due to the increasing size of the total global population as well as population aging, which is mainly affecting advanced countries. NISSO HPC has been well received around the world as an excipient essential for formulating medicinal products. Particularly in India and China, where economic growth has been significant, as living standards have improved and sales of medicinal products have been increasing as a result, NISSO HPC has been used more frequently in a wider variety of settings. In response to the increased demand for NISSO HPC, Nippon Soda has decided to invest some five billion yen in building a new product line at Nihongi Plant (Joetsu City in Niigata).

As one of our efforts to improve access to health care in the global market, we opened a new office in India in 2017. We hired local staff and deepened communication with local pharmaceutical manufacturers with whom we otherwise seldom had contact. Through our efforts, we have successfully built up trust with them, thereby increasing the recognition and use of NISSO HPC. We are considering expanding our efforts to include China and Southeast Asia so that we can contribute to ensuring health and well-being for more people in more regions.



#### Cellulose Technical Application Center established in Chiba Research Center

A new facility will be opened to perform demonstrations to customers and others and provide introductory information on formulation technology and quality control methods. The facility will start operating in October 2019 to provide information on products and identify latent needs. With an eye toward global expansion in the future, we will use this facility to publicize and promote our products to overseas customers.





#### Application of our technology used for NISSO HPC to supplements

In Japan, Europe and the U.S., as a result of increasing awareness around healthy lifestyles and preventive health care, there have been an increasing number of people who consume health foods and supplements on a daily basis. As NISSO HPC, which is both safe and highly functional, can be used for food processing, we have provided it for use in the food market, including supplements, under the brand name CELNY for the last 14 years, mainly in Japan, Europe and the U.S.

CELNY demonstrates particularly high functionality in the formulation of natural ingredients that are difficult to process, such as turmeric, glucosamine and mulberry leaf, in producing nutritional supplements. It can incorporate large dosages of these natural ingredients, reducing the amount of supplement tablets that need to be taken in one day. We thus contribute to ensuring healthy lives for all by providing society with an environment where high-quality health foods and supplements that place a lighter burden on the body are available, as well as being economic and convenient.



New facility at Chiba Research Center (rendering

Point

12 CONSIGNATION AND FRODUCTION

## Environment Society5.0 for SDGs Envi Tech

## The Power of Chemistry

# Achieving environmentally sound recycling of resources

Special

Section

As the world's population increases, there have been growing concerns over issues related to water resources, which are essential for maintaining comfortable living standards, and adverse effects caused by waste. Nippon Soda places emphasis on ensuring a stable supply of water resources and reducing environmental impact of waste as materiality issues to 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. In our efforts in sustainable plant protection, we provide an agent for preventing pine tree withering to contribute to the protection of pine forests.

#### To meet a variety of needs for safe and secure water

Public demand for a safe and secure water supply to support everyday life have been increasing not only in Japan but also in various regions around the world. Nippon Soda's NISSO HI-CHLON is an internationally well-known brand of 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 is disinfected and sterilized using NISSO HI-CHLON is about 23 million tonnes per year. More efforts will be focused on accelerating the global supply of this product, mainly in Europe and North America, to contribute to ensuring comfortable lifestyles for people in various regions.

The market for MITAGEN, an enzyme-microbe preparation, has also been expanding, not only in Japan but also in countries such as China, where there has been increasing awareness around reducing the environmental impact of industrial wastewater. Nippon Soda will continue to respond to various needs for safe and secure water with NISSO HI-CHLON and other products.

#### Reduction of environmental impact in wider regions

About 34 million tonnes of waste is treated annually at incineration plants nationwide, generating about 1.3 million tonnes of fly ash. 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 and cadmium, 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 various reasons, such as population decline. In response, we are considering expanding sales of HIDION globally. While the quality of HIDION is highly appreciated in China and other countries, there are also issues that should be addressed locally, including costs and technical support, such as mixing before use. We will continue to conduct surveys on these issues so that we can contribute to reducing the environmental impact of waste around the world.

# **ZOOM** In

#### Green Guard: an agent for protecting pine trees, a symbol of Japan's beautiful natural landscape

Pine trees, an iconic symbol of the Japanese landscape, have played important roles in communities as sand breaks and windbreaks. Recently, however, pine forests have been shrinking due to pine wilt disease, which has become a nationwide concern. Green Guard, an agent for preventing pine wilt disease marketed by Nisso Green Co., Ltd., our subsidiary, has been used for business purposes such as public works, contributing to the greening of streets and parks as well as landscape conservation. We have held workshops on plant protection, mainly to local municipalities, which have been attended by many customers.



▲ Injection of Green Guard NEO into a pine tree trunk

## Information Society5.0 for SDGs Infra Tech



## The Power of Chemistry

# The potential of high-performance materials



Thanks to high-speed Internet, anybody can now send and receive information. Tablet PCs 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.

#### Copper clad laminates for next-generation communications

The next-generation or 5G mobile communication network, which is expected to be put to practical use in 2020, will enable speedier web conferences and video transmission.

Base stations that receive radio waves from satellites in space need to avoid high frequencies. For copper clad laminates that are used for these base stations, the technology of Nippon Soda's NISSO-PB, which features a low dielectric constant and high insulation in highfrequency regions, is applied. This is one example of how Nippon Soda's functional chemicals are essential materials for advanced information and telecommunications.

We are currently placing emphasis on providing technical services in Japan and overseas to provide information on the potential applications of our materials. The goal of these efforts is to meet demand not only in Japan, Europe and the U.S., but also in emerging markets. We will make ongoing efforts to identify ever-changing public needs and to supply high-quality and environmentally friendly materials in order to support industry and technological innovation.



#### Increased production capacity for VP-Polymer

As there has been increasing demand for larger-capacity and higher-speed semiconductors, the need for KrF photoresists is increasing. As a result, increasing demand for VP-Polymer is expected into the future. To ensure a constant supply, Nippon Soda increased the production capacity of VP-Polymer manufacturing facilities by 50% at Chiba Plant (Ichihara City, Chiba) in April 2018. The reliable quality of VP-Polymer will continue to support the foundation of a digital society.



#### VP-Polymer, which supports the foundation of a digital society

As a result of the rapid evolution and popularization of smartphones, the demand for semiconductors has been increasing every year. To draw an electric circuit diagram on a semiconductor substrate, an agent called a photoresist is used. Nippon Soda's VP-Polymer, an ingredient in photoresists, can contribute to the manufacture of semiconductor structures, which requires advanced microfabrication techniques. About 20 years ago, Nippon Soda successfully commercialized VP-Polymer before any other company in the world by using a proprietary living anionic polymerization technique.

We now offer different brands that meet the different needs of photoresist manufacturers in Japan and overseas. Nippon Soda's VP-Polymer occupies the highest share among KrF photoresists for semiconductors. Regarding functional polymers, including VP-Polymer, as growth drivers, we are expanding the functional polymer business. Efforts will be made to respond to further increasing demand for functional polymers as well as to offer new polymer materials that meet customer needs.



## Environmental Protection

Activity

policy

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.

- 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 landfills)
- Development of products and processes with less environmental impact
- Adoption of environmental management systems (EMSs); Reduction of energy consumption, while maintaining productivity

Major activities

#### 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 CO<sub>2</sub> emissions in FY 2021.

#### Reduction of energy consumption and greenhouse gas emissions

Nippon Soda has been implementing measures to reduce greenhouse gas (GHG) emissions by improving energy use per unit of production, such as improvements in production processes, adoption of energy-saving equipment, and saving power.

#### Use of renewable energy

The Nihongi Plant performs smallscale hydraulic power generation. Generated electricity has been effectively used for production activities at the plant.



## at Nihongi Plant Promotion of energy saving by the Logistics Department

Nippon Soda has been making every effort to improve efficiency and reduce the environmental impact in terms of logistics through modal shifts, reducing the number of trips by using larger-sized shipping containers, and adjusting logistics distribution routes.

#### Effective use of resources and reduction of 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.

#### 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.

#### Preservation of biodiversity

Nippon Soda has taken measures to reduce environmental impact mainly in areas where our production sites are located. In recent years, we have added biodiversity preservation to our priority issues and each worksite has been implementing its own preservation activities.

Goals for FY 2019 and results (KPIs) Achievement levels	©:≥90% ○:80-90% △:60-80% ×:≤60%
1. Environmental Issues: Goal: Zero events	Achievement level ×: Violation of the wastewater agreement, etc. (zero event at Nippon Soda, one event at a Group company)
2-1. Energy use per unit of production: Goal: Annual improvement of 1%	Achievement level ©: 2.0% reduction
2-2. Energy use per unit of transportation: Goal: Annual improvement of 1%	Achievement level X: 7.8% increase
3. Reduction in greenhouse gas emissions: Goal: Annual reduction of 1%	Achievement level ©: 8.6% reduction
4-1. Waste (amount of final disposal as landfill): Goal: Annual reduction of 3%	Achievement level ×: 20% increase (Increased waste glass due to relocation of research center)
4-2. Waste (continuation of zero emissions): Goal: 5% or less	Achievement level ©: 1.4%
<ol> <li>Emissions of harmful substances into the atmosphere: Goal: Annual reductions of 37.5% from the fiscal year 2015</li> </ol>	Achievement level ©: 55% reduction
6. Reduction in impact on biodiversity and ecosystems	Achievement level ©: Nurturing of endangered species at two sites
	mpact of our business activities on the environment. Our efforts ving, resource saving, reduction of greenhouse gas emissions, mpact on ecosystems

to protect the environment will include energy saving, resource saving, red preservation of biodiversity, and reduction of the impact on ecosystems.

## **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 all plants and to 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.



#### 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 have established an emergency risk management system to prepare for accidents, disasters and other emergencies. To maintain the system in a sound condition, we conduct periodic drills and exercises.

#### 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

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.

1. Major accidents at facilities: Goal: Zero accidents 2. Maintenance and improvement of the BCP

Efforts for the future

• 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

• Safety reviews by our internal experts to verify safety when facilities are constructed or renovated;

us be prepared for natural disasters such as large-scale earthquakes and other emergencies that

Education and drills for process safety and 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.



## **Business Continuity Plan (BCP)**

As the principles of the BCP, the Nippon Soda Group defines principles regarding the safety of employees and residents in local communities, protection of the safety of affected offices, and other

Nippon Soda's BCP aims to ensure the supply of products to customers as requested at all times. To achieve this objective, improvement is accelerated using the PDCA cycle.

Goals for FY 2019 and results (KPIs) Achievement levels ○: ≥ 90% ○: 80-90% △: 60-80% ×: ≤ 60%

Achievement level X: One fire event at Nippon Soda; one fire event and at a Group company Achievement level O: The 8th version was distributed and the 9th version was prepared.

We will continue our efforts to achieve the target of "no major accidents at facilities" through the constant improvement of safety management, risk management, education, disaster prevention drills and other measures.

## **Occupational** Safety and Health

Activity

policy

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.

- 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

#### $\checkmark$ Major activities

#### 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 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 (KY<sup>1</sup> before starting operation  $\rightarrow$  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.

#### Health management for workers

#### Health and productivity management

Nippon Soda recognizes the importance of health maintenance and improvement in business management. In February 2019, Nippon Soda was recognized as a "Health & Productivity Outstanding Entity 2019" in the large enterprise category (White 500) again, under the recognition program jointly undertaken by the Ministry of Economy, Trade and Industry and the Nippon Kenko Kaigi.

Nippon Soda, in cooperation with the Nisso Health Insurance Association and the labor union, promotes efforts toward promoting the physical and mental health of employees and their families.

As mental health care services, in addition to stress tests, we provide the following four programs: 1) self-care, 2) care services through Line, 3) care by occupational healthcare staff and other specialists at each workplace and 4) care by external parties.

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

	Goals for FY 2019 and results (KPIs) Achievement levels ©: ≥ 90% ○: 80-90% △: 60-80% ×: ≤ 60%		
<ol> <li>Occupational accidents resulting in an absence from work or no absence: Goal: No accidents Achievement level ×: 10 cases involving absence from work (zero Nippon Soda employees, 3 affiliate company employees, 5 Group company employees, 2 Group affiliate company employee)     </li> </ol>			
	16 cases involving no absence (5 Nippon Soda employee, 3 affiliate company employees, 7 Group company employees, 1 Group affiliate company employees)		
	<ul> <li>2. Health promotion: Goal: 15% reduction in the total number of absentee days, including mental-health-related absence; 15% reduction in the incidence of personal injury and illness (average in the period from FY 2013 to FY 2015)</li> <li>Achievement level △: 61% reduction in the total number of days of absence from the average of the period from FY 2013 to FY 2015; 7% increase in the number of incidents</li> </ul>		
	Efforts for the future by With the aim of achieving the goal of zero occupational accidents, we will continue our efforts to reduce risks through continuous risk assessment, strengthen measures to prevent human error, and enhance safety activities. To help employees maintain and improve their health, we provide them with medical examinations, conduct		

follow-ups of employees undergoing stress tests, and continue good health maintenance activities.



#### 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.

#### Yellow Card<sup>1</sup> and Container Yellow Card<sup>2</sup> (product labels)

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<sup>3</sup> 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.

#### 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.

- 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 transportation. 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
- Guidebook in addition to other information.
- Social Council, is a system for the international standardization of classification and labeling (product labels and SDSs) regarding risks and toxicity of chemicals

#### Goals for FY 2019 and results (KPIs) Achievement levels $\bigcirc$ : $\ge 90\%$ $\bigcirc$ : 80-90% $\triangle$ : 60-80% $\times$ : $\le 60\%$

1. Distribution-related complaints: Goal: 90% reduction from FY 2015 ( ≤ 0.3 cases) Achievement level X: 3 distribution-related complaints **2.** Product-related complaints: Goal: 90% reduction from FY 2015 ( $\leq$  1.8 cases) Achievement level  $\times$ : 15 product-related complaints

Efforts for the future

To reduce distribution- and product-related complaints, we constantly improve our activities to ensure distribution safety and quality assurance, including inspections and audits of distribution companies, risk assessment, and implementation of measures to prevent human error.

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

 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

• Provision of information that helps customers use high-quality products safely, comfortably and

• Provision of products that increase customer satisfaction, while ensuring safety and hygiene for



Example of a combined label

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

#### Quality assurance

#### Efforts to ensure quality management Quality risk assessment

Nippon Soda assesses quality risks so as to prevent quality complaints from occurring and reoccuring. 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. In addition, we also implement measures targeted at reducing complaints arising due to human error.

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

3. GHS: The Globally Harmonized System of Classification and Labelling of Chemicals (GHS), which was developed and agreed upon by the United Nations Economic and

## Chemical and **Product Safety**

policy

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.

- Compliance with domestic laws and regulations, international standards, treaties and the like, giving due consideration to impact caused by risks and toxicity of chemicals and products on the environment, safety and health
- Activity 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

 $\checkmark$  Major activities

#### 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 SDS<sup>1</sup> and Yellow Card preparation and management system (ExESS).

We revise SDSs and Yellow Cards whenever relevant laws are revised 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 GHS<sup>2</sup> 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.





Product safety

We provide explanatory sessions on how to comply with the EU

REACH<sup>3</sup> 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.

Communication of safety information on chemicals

The Nippon Soda Group participates in the GPS/JIPS<sup>4</sup>. We have

prepared safety summary reports on five substances, including

caustic soda and hydrochloric acid, which have been registered

on the ICCA<sup>5</sup> portal page and made publicly available.

Actions to comply with laws and regulations

1. SDS: A Safety Data Sheet (SDS) is a document that contains information on chemical substances, product names, suppliers, hazardous and toxic properties, safety neasures, 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 tonne 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

▶ Goals for FY 2019 and results (KPIs) Achievement levels ©: ≥ 90% ○: 80-90% △: 60-80% ×: ≤ 60%

1. Compliance with chemical-related laws and regulations: Goal: Zero violations

Achievement level X: 3 violations (Nippon Soda: Violation of the Poisonous and Deleterious Substances Control Act; Group companies: Violation of the Industrial Safety and Health Act, violation of the Pharmaceuticals and Medical Devices Act)



To ensure compliance with chemical-related laws and regulations (zero violations), we will strengthen the management of chemical substances under our new chemical substance management system and promote the compliance of SDSs and product labels with the GHS requirements. We will continue to provide regular training programs on chemical substance control, including training for new/transferred employees, explanatory sessions on revisions of laws and regulations, and explanatory sessions on revisions to relevant laws and regulations of foreign countries.



#### 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."

#### 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 for local stores and farmers and invite them to visit agricultural fields where our products are used.





Giving talks nationwide on control measures against bacterial diseases

Nippon Soda acquired three antibiotics-Agrimycin, Bactecide and Myco Shield-from Zoetis Japan in September 2018 as a result of the acquisition of Zoetis's plant health business. Since then, as a supplier of these antibiotics, we have provided instructions on how to control bacterial diseases in fruit trees and vegetables. As bacterial diseases are serious problems, concerns are running high. We respond to invitations to give on-site talks on control measures against bacterial diseases and provide information on research trends.

In the period from the end of last year to March this year, we described bacterial disease control to JA's local advisors and members at seven different potato cultivation areas in Hokkaido, sharing relevant information with local farmers. In May this year, in response to a request from JA in a fruit tree cultivation area in Hokuriku, we provided instructions on control measures to members of its youth group. We thus not only supply chemical agents but also place emphasis on interaction with local farmers with the aim of contributing to local communities.

The Nippon Soda Group provides products with functions that satisfy our customers, and makes efforts toward ensuring safety

• • Working together with our customers in continuing to create new value that is sought after by

#### 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.



(left) AGCHEM AGE special 200th commemorative issue (right) Front page of a general information leaflet for Topsin M WP

## Development of products that are useful to society

#### Efforts to reduce plastic waste

As a measure to limit the use of resources and reduce the amount of waste as well as to address the issue of marine plastics, there has been global demand for establishing a system to reduce, reuse and recycle plastics at the earliest possible time. Using technology for creating functional polymers, the Chiba Research Center is developing biodegradable plastics and other biodegradable materials that, after use, can be decomposed into water and carbon dioxide with the help of microorganisms.



(January 9, 2019 in Hokkaido)

policy

## **Together with** Our Employees (Human Rights/

Labor Practices)

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

- 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
- Activity • With particular emphasis on promoting diversity and creating rewarding workplaces that all Nippon Soda employees can be proud of, we proactively review our personnel and operation systems to ensure the ongoing improvement of these systems.

#### Major activities

#### 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.

#### 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 childbirth, 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.

#### 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 position-based training on relevant issues. A harassment complaint office is also available.

#### Nippon Soda Group's human resources development

To ensure the sustainable growth of Nippon Soda, we commit ourselves to creating a company where competent people come together and grow together.

Believing that education and training are the foundation for the development of human resources, we offer various kinds of training programs, such as on-the-job training, position-based training, training programs for managers, early- and intermediatephase practical training, specialized training by job function, and training for self-development to acquire gualifications.

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





#### **Diversity policy**

Ninnon 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.



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



#### Efforts in procurement

#### 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 and maintaining knowledge on various laws related to purchasing (Antimonopoly Act, Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors, etc.)

#### Compliance with the code of conduct

We comply with our internal code of conduct regarding trading with business partners from whom we make purchases, in terms of complying with laws and regulations and ensuring fairness and justice.

#### 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.

#### 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.

#### CLOSE UP Proper procurement of ingredients from overseas countries

In recent years, environmental regulations have become more stringent in Asian nations. In China, from which we buy ingredients, plants with inadequate environmental management measures are forced to stop their operations. To avoid the discontinuation of supplies of ingredients on the global market and maintain the steady operation of our plants, we check the state of environmental measures taken by our business partners and build business partnerships with more than one supplier.

• Establishment of a purchasing policy that is predicated upon interacting with our business partners

#### Dialogues with our business partners

#### Safety education

#### 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 companies on distribution safety

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



#### Social Activities

policy

## **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.

- 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.
- Activity 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 at our Board Meetings as necessary so that we can reflect them in our management.

#### Major activities

#### Communication

#### Dialogues with our shareholders

The Nippon Soda Group holds an 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), and provide pre-delivery disclosure of information on Nippon Soda's website and the Tokyo Stock Exchange website.

We issue our business reports (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 parties other than our shareholders.

#### 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 the growth scenario.

We send our annual reports to institutional investors outside Japan on an annual basis. In addition, we participate in individual visits and conference calls to provide explanations.

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 to achieve an early market launch, and for allotment in growth investment such as M&As and business partnerships, as well as for the maintenance and upgrade 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 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

#### Inclusion of our company's shares in socially responsible investment (SRI) funds

A socially responsible investment (SRI) fund is an investment trust in which target companies are determined based on how proactively they fulfill their social responsibilities, in addition to their financial status and growth potential.

Our company's shares have been included in the Meiji Yasuda Women's Empowerment Promotional Fund, the Mitsubishi UFJ SRI Fund and other SRI funds for our efforts in promoting women's active participation and better work-life balance.

## 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.

 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 Activity 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

#### Major activities

policy

#### Participation in community activities

Group company.

#### Harmonious relationships with local communities

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

To fulfill our roles and responsibilities as a corporate citizen, we regularly conduct cleanup activities for local communities in the neighborhoods of our worksites. We also participate in cleanup activities jointly conducted with local residents.

#### 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 offices are located in order to provide information on CSR activities and receive feedback.

#### 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.



#### CLOSE UP External communication

Nihongi Plant conducts environmental monitoring in cooperation with five residents in nearby communities and Takaoka Plant in cooperation with 12 residents from six local residents' associations in the vicinity of the plant. In FY 2019, we received no reports from these monitors.

CLOSE) UP

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

#### Dialogue with the general public

#### 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 highest)

## 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."



## Corporate Governance

Corporate Governance System and Corporate Social Responsibility Administration Meeting



#### **Basic concept**

Nippon Soda places primary importance on sound and transparent business management in compliance with the law. Our 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 proprietary technologies and by growing our business internationally with a focus on chemistry. Nippon Soda recognizes the importance of good corporate governance in order to achieve this philosophy and to 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 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.

We have also established the Nomination and Compensation Advisory Committee.

#### 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 annually conducted to gauge the propriety of business management and improve supervisory functions. In FY 2019, we conducted a third-party evaluation using an external organization to ensure the neutrality and objectivity of the effectiveness assessment.

## 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

#### The Nippon Soda Group Code of Conduct comprises th

1 Compliance with laws, rules, regulations and corporate ethics	(1) Fair behavior	(2) Complian
	(1) Contribution to society	(2) Complian
2 Relationships with society	(4) Severance of relationships with antisocial forces	(5) Environme protection
3 Relationships with	(1) Safety of products	(2) Complian Antimono
customers, business partners and competitors	(4) Prevention of unfair competition	(5) Business
	(7) Appropriate advertising	
4 Relationships with shareholders and investors	(1) Disclosure of management information	(2) Prohibitio
5 Relationships with	(1) Respect for human rights and prohibition of discrimination	(2) Harassme
employees	(4) Safety and hygiene at worksites	(5) Complian
	(1) Compliance with working regulations	(2) Proper ac
6 Relationships with the company and its assets	(4) Prohibition of political and religious activities	(5) Managerr
	(7) Appropriate use of information systems	(8) Protection
7 Supplementary provisions	(1) Scope of application of this Code of Conduct	(2) Revision a Code of C
	(4) Penalties	

#### Compliance education

The requirements that allow the Nippon Soda 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 consolidated companies. Training based on the Code of Conduct is provided on a regular

## **Risk Management**

#### Internal audits

The company's Internal Control & Audit Department is independent of 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 assist with audits. 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.

e following sections:		
ce with corporate ethics	(3) Prompt corrective action and strict disciplinary action in response to the violation of a law, rule or regulation	
ce with industry laws	(3) Restrictions on political and other donations	
ental preservation and า	(6) Compliance with laws and regulations related to security trade control and imports and exports	
ce with the poly Act	(3) Compliance with suppliers' guidelines for fair transactions and the Subcontract Act	
entertainment and gifts	(6) Prevention of bribery of foreign public officials	
n of insider trading		
ent	(3) Protection of privacy	
ce with labor laws		
counting	(3) Conflicts of interest	
nent of corporate secrets	(6) Appropriate use of corporate assets	
n of intellectual property		
and abolition of this Conduct	(3) Violation consultation hotline	

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 2019, major compliance training sessions were held eight times at Nippon Soda and major Group companies.

#### 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 on how to act to prevent viruses from infecting our computers. Data with 父 are those of Nippon Soda Co., Ltd. alone. Data without 😒 include those of group Companies.





11.5

4.6 4.1

4.18

04

0.40

0.79

0.54 0.48

2017

0.35 0.36

0.98

0.50

0.00

2014 2015 2016

2015 2016 2017 2018 2019 (FY)

ESG data: Energy consumption and carbon dioxide emissions 😒

9.9

(%)

16

8

4

0

200

120

80

40

(%)

3.0

2.0

1.0

---- Employees of JCIA

Affiliated companies

4.0 - Affiliated companies

of JCIA

Employees

-0.43

0.40

160 156.4







ESG data: Number of new hires, retention rates after employment 😒



ESG data: Occupational accident frequency rates 😒 ESG data: Severity rate for occupational accidents 😒



#### To identify new issues related to CSR activities in the future, we sought a third-party opinion from an expert.

As stated in the top message of President Ishii, Nippon Soda has integrated management strategies and CSR-oriented business management to achieve sustainable improvement of the corporate value.

I highly appreciate the company's serious approach to fulfilling this goal by clarifying the framework for the CSR-oriented business management, which consists of three categories: "CSR activities to protect corporate value," "CSR activities to improve corporate value" and "social activities."

A particularly noteworthy point is that Nippon Soda has successfully established and implemented a management system that emphasizes CSR activities to protect its corporate value. This success, I believe, can be partly attributed to their responsible care achievements over many years. The company should continue efforts in this regard.

In its CSR activities to improve corporate value, the company has identified four priority domains based on the dialogues with stakeholders, which is helpful to specifically show, internally and externally, its commitment to improving corporate value. I recommend that the company clarify goals to be achieved in each domain in the future. With regard to improvement of the corporate value, while it is important to report past results based on KPIs, investors and other stakeholders are very much interested in knowing about medium- and long-term goals and strategies to achieve them. It is important to show how your products serve society at present but it is even more important to expand solutions to address social issues, including research and development of new materials and application of existing materials to addressing new issues.

With regard to the third category of "social activities," I recommend that you reorganize your social activities based on the value chain concept. Human rights are viewed only from a narrow perspective, which is limited to employees' human rights, such as diversity and work-life balance. You should identify human rights-related risks in every supply chain, from upstream to downstream, and determine priority risks to establish a system to prevent them from occurring, or do your own form of human rights due diligence. Human rights due diligence is an important practice that is expected to be carried out by companies around the world. Your effort to ensure business partners comply with environmental regulations is commendable but the ISO sustainable procurement standards include not only environmental issues but also human rights issues. Never forget that respecting human rights is critical to both protecting and improving the corporate value.

There is no end goal in CSR activities, in any case. Your constant, untiring efforts are the key to success. I hope that Nippon Soda's CSR activities will continue evolving into the future beyond the commemorative 100th anniversary of Nippon Soda.

#### Response to the third-party opinion from an expert

Mr. Seki participated in the stakeholder dialogues in 2016 and 2017, where he provided us with valuable opinions from an expert perspective, based on which we have planned and implemented CSR activities. This year we sought his opinions as a third-party expert. We appreciate his understanding of Nippon Soda's overall CSR activities and valuable opinions on how our CSR activities should be carried out in the future. We will continue our CSR activities to protect the corporate value based on his opinions. With regard to CSR activities to improve the corporate value, we will include efforts to address social issues. In our social activities, we will remind ourselves of the importance of human rights issues and expand our perspectives.

As Mr. Seki mentioned, there is no end goal in CSR activities. We will continue our efforts in improving our CSR activities.



Growth indices



ESG data: Number of employees talking maternity/childcare leave 😒





Masao Seki Professor at School of Business Administration, Meiji University Senior Advisor on CSR at Sompo Japan Nipponkoa Insurance Inc.

Joined Yasuda Fire and Marine Insurance Co., Ltd. (present Sompo Japan Nipponkoa Insurance Inc.) after graduating from the Faculty of Law at the University of Tokyo. Assumed the present position after serving as Director/CSR General Manager. Participated in the development of the ISO 26000 standards as the Japanese industry representative. In 2017, he chaired the revision task force of Keidanren's Charter of Corporate Behavior incorporating SDGs and has played other influential roles in promoting the implementation of CSR in industry. In Keidanren, he has served as CBCC Steering Committee Chairman, Chair of Task Force on Keidanren's Charter of Corporate Behavior, and Chair of the

Business and Human Rights Taskforce, Also serves as a member of the Tokyo Olympics and Paralympics City Planning/Sustainability Committee. Books written by him include SDGs-keiei-iidai-ni Motomerareru CSR-towa Nanika (CSR in the SDGs Business Era) (Daiichi Hoki) and ISO 26000-o Yomu (Understanding ISO 26000) (Union of Japanese Scientists and Engineers)



Atsushi Ogihara General Manager of the Corporate Social Responsibility Department and Environment and Quality Management Group Leader, Nippon Soda Co., Ltd

# Nisso NIPPON SODA CO., LTD.

For inquiries and opinions about this report, please visit the website below:

http://www.nippon-soda.co.jp/contact/

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#### About the Front Cover

A motif based on the company emblem, which consists of a hexagon-shaped snow crystal enclosing a hare made from snow. The snow crystal and the hare made from snow respectively represent high purity and virtue, which are essential to a chemical company.



