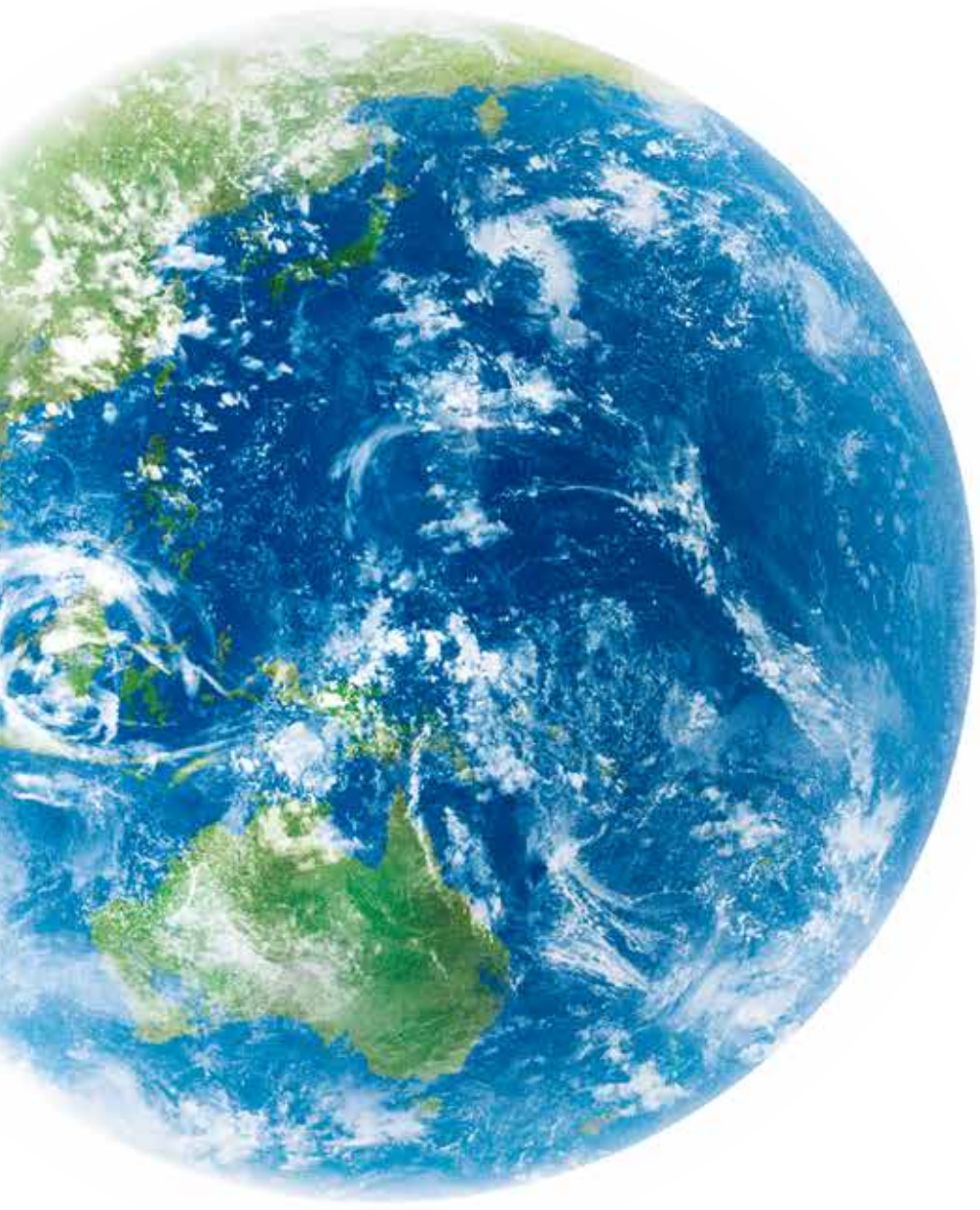
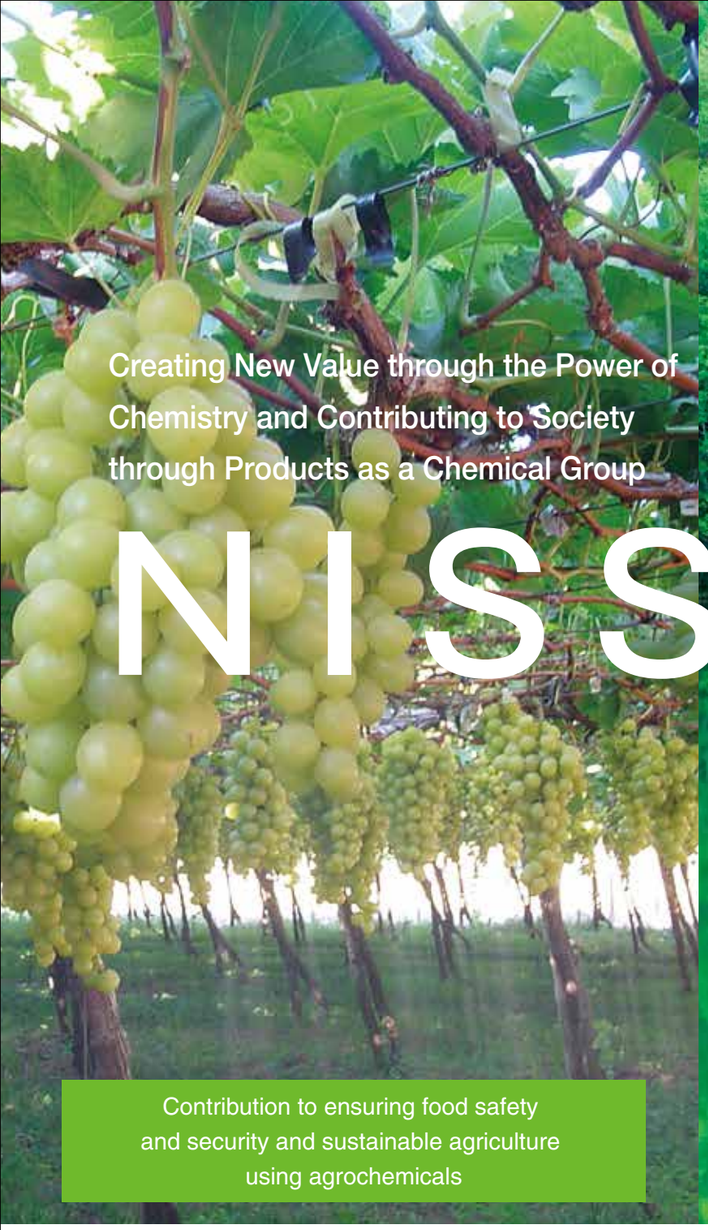
Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

Nippon Soda Group

CSR Report 2016



Nisso NIPPON SODA CO.,LTD.



Creating New Value through the Power of Chemistry and Contributing to Society through Products as a Chemical Group

NISSO

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

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

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

Editorial Policy

The CSR Report 2016 is designed to provide information on the corporate social responsibility (CSR) and responsible care (RC) activities—and their results—of the Nippon Soda Group. Its aim is to promote transparency and accountability. The information contained in this report is arranged by RC Codes and CSR Core Subjects.

This report complies with the GRI G4 guidelines. (See the GRI Correspondence Table on pages 96 to 98.)

Publication Date

September 2016
(Next report scheduled to be issued in September 2017)

Guidelines Used as References

Global Reporting Initiative: G4
The Japanese Ministry of the Environment's Environmental Reporting Guidelines 2012
Japanese Standards Association ISO 26000: 2010 Guidance on Social Responsibility

Scope of the Report

This report summarizes CSR and RC activities of Nippon Soda Co., Ltd. and major Nippon Soda Group companies (three manufacturing group companies: Nisso Metallochemical Co., Ltd., Nisso Fine Co., Ltd. and Shinfuji Kaseiyaku Co., Ltd.; and five non-manufacturing group companies: Nisso Shoji Co., Ltd., Sanwa Soko Co., Ltd., Nisso Engineering Co., Ltd., Nisso Construction Co., Ltd. and Nisso Green Co., Ltd.).

This report provides the actual results for fiscal 2016 (April 1, 2015 to March 31, 2016). The data on occupational accidents presented in this report are based on the actual results from January 1, 2015 to December 31, 2015. The financial data covers 19 consolidated subsidiaries and four equity-method affiliates. For a list of major companies, refer to the section titled, "Nippon Soda Group Network" on pages 89 to 90.

International Standards Certifications

■ 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 identifying risks related to occupational safety and employee hygiene, developing preventive measures, and implementing such 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, 2011.

Responsible Care

Responsible Care (RC) was launched in 1985 in Canada. The International Council of Chemical Associations (ICCA) was established in 1989 and, as of January 2016, more than 44 countries and regions around the world participate in the Responsible Care initiative. In Japan, the Japan Responsible Care Council (JRCC) was established in 1995 under the Japan Chemical Industry Association (JCIA) by 74 companies, most of which manufacture and handle chemical substances, with the aim of standardizing and augmenting environmental and safety activities that were previously conducted by individual companies as well as raising public awareness of RC activities. The JRCC became the "JCIA RC Committee" in May 2012. As of March 2016, the committee has a membership of 111 companies. The aim of RC activities can be summed up as follows: To do what is ethically right and to implement proactive measures to reduce risks.

Corporate Profile (As of the end of March 2016)

Name: Nippon Soda Co., Ltd.
Location of Head Office:
Shin Ohtemachi Bldg., 2-2-1 Ohtemachi, Chiyoda-ku, Tokyo 100-8165
Tel. +81-3-3245-6054
Foundation: February 1920
Representative Director, Chairman:
Yutaka Kinebuchi
Representative Director, President:
Akira Ishii
Stock Listing: Tokyo Stock Exchange, First Section
Capital: 29,166 million yen
Number of Employees:
2,664 (consolidated, including contract employees)
1,279 (non-consolidated, including contract employees)
Business Description:
Manufacturing, processing and marketing of caustic soda, potassium products, chlorine and chlorine products, synthetic resin, dyes, pharmaceuticals and pharmaceutical intermediates, agrochemicals, and various other kinds of chemical industrial products

CONTENTS

Becoming a Sought-After Chemical Company in the 21st Century

Realizing the Dreams of the Next Generation

Through the use of innovative and creative technologies and products, Nippon Soda will continue to focus its efforts on contributing to the creation of a more comfortable society and making the dreams of the next generation come true.

The Nippon Soda Group is committed to ensuring its sound development into the future so that it can continue to contribute to society through its business activities and provide its employees with a motivating work environment.

Under the new management system, the Group will, in response to the rapidly changing global political and economic environment, strengthen its corporate structure in line with the motto “speed and reform” to ensure further progress.

Establishing a solid growth trend into 2020

In fiscal 2011, the long-term vision “Chemigress to 100”[1] was presented. This vision defines the position that Nippon Soda seeks to achieve by 2020, the year that marks the company’s 100th anniversary. The “Chemigress to 100” vision is divided into three stages: the first stage, from fiscal 2011 to fiscal 2013, during which the previous medium-term plan was implemented; the ongoing second stage, from fiscal 2014 to fiscal 2017, during which the current medium-term plan is being implemented; and the final stage, ending in 2020, for which a new medium-term plan is to be developed in fiscal 2017.

The new medium-term plan will set out a specific and clear strategy showing the direction the Nippon Soda Group will take and what kinds of new projects it will be involved in, since the implementation of existing projects alone would not be sufficient to produce greater results, nor would it allow us to achieve the goals included in the vision.

We are determined to expand our business and execute the vision with an eye to the next 100 years, and will make proactive investments accordingly. We are now adjusting course to put ourselves on a solid growth trend toward 2020.

Three efforts to achieve remarkable growth and our goals

The following three priority actions implemented under the medium-term plan for the second stage will be completed:

Expansion of growth drivers
Efforts have been focused on the development of three new agrochemicals. We have already started the construction of manufacturing facilities at the plant and a production system is being established. With regard to chemicals, a system to increase the production and sales of HPC[2] has been established. We are also considering enhancing the production of functional polymers, developers and other chemicals.

Enhancement and restructuring of the business foundation
Efforts have been made to ensure ongoing cost reduction and improve research efficiency on the manufacturing side and, on the management side, to improve operational efficiency and develop globally competent employees and an organizational structure that facilitates global operations. In our restructuring efforts, we will carefully review various aspects, including impacts on other departments, so as not to leave anything undone.

Improvement of the Group’s comprehensive capabilities
As part of our efforts for the improvement of the Group’s comprehensive capabilities, we made Sanwa Soko Co., Ltd. our wholly owned subsidiary in fiscal 2015. We hope to generate synergistic effects for the Nippon Soda Group through the physical distribution function at the earliest possible time. With primary importance placed on the improvement of the value of the entire Nippon Soda Group, we will continue discussions with group companies so that we can effectively use the resources of the entire Group.

Sound and transparent business management to contribute to the development of society

Our CSR activities shifted into full gear in fiscal 2013 and, in fiscal 2015, were expanded throughout the Group. Companies are increasingly expected to fulfill their responsibilities to society. To meet social expectations, the entire Nippon Soda Group commits to collaborative efforts to improve CSR activities.

Compliance
Our focus will continue to be on ensuring sound and transparent business management in compliance with laws and regulations. To further enhance our compliance practice, we provide employees with regular training and information-sharing opportunities, as well as conduct regular audits.

Efforts to ensure safety
In fiscal 2015, we achieved the target of no occupational accidents causing an absence at Nippon Soda including all group companies in Japan for the first time since we started recording safety data. In fiscal 2016, however, we failed to achieve the target of no occupational accidents causing an absence. We will continue to enhance our efforts to ensure safety on a daily basis so that we can achieve the target of no occupational accidents causing an absence at all group companies in Japan and abroad.

Corporate governance
The Corporate Governance Code was introduced in June 2015. It defines numerous standards of governance and management for listed companies with the aim of increasing the transparency and rationality of corporate management. Nippon Soda has added two new independent outside directors and will further enhance its corporate governance practices to ensure sound and transparent business management, to contribute to the development of society, and to be trusted by all stakeholders, as described in its basic principles.

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

As a chemical group dealing with numerous chemical and hazardous substances, we have actively been engaged in CSR activities aimed at protecting our corporate value. These typically take the form of responsible care activities intended to minimize negative impacts. In our pursuit of CSR going forward, we will also place emphasis on business activities that contribute to society through the provision of products to improve our corporate value. These will be activities aimed at increasing positive impacts, such as social contribution.

As a group valued by society, we aim to achieve sound development by committing ourselves to
ensuring community- and environment-conscious “Nisso Safety” and “Nisso Quality”
in our CSR activities to protect corporate value, and
creating new value through the power of chemistry and contributing to society through products
in our CSR activities to improve corporate value.

1 The term “Chemigress” is a combination of “chemical” and “progress.” It has been coined to convey our commitment to “contribute to developing a sound society through our business projects and activities, most of which involve chemistry, toward the 100th anniversary of our foundation.”

2 HPC stands for hydroxypropyl cellulose developed by Nippon Soda, which is used for a wide range of applications, such as a binder to form pharmaceutical tablets and supplements, a whipped cream stabilizer, and a thickener to increase the viscosity of paints, by customers in various fields. In particular, HPC is used for tablets, powdered medicines and granules as a superior excipient by many pharmaceutical manufacturers around the world because it does not impair the effects of drugs.

Long-Term Vision

Long-Term Vision “Chemigress to 100”

Chemigress to 100
Advancing to our 100th birthday in 2020

The Nippon Soda Group is implementing its business plan in accordance with the long-term vision “Chemigress to 100” to become the ideal company that Nippon Soda aims to become in 2020.

The Ideal Company that Nippon Soda Aims to Become

Focus mainly on areas essential for the development of a sound society, such as agriculture, medicine, the environment and information, and provide a constant stream of new safe and useful products and businesses, thereby making tremendous contributions to society.

Increase its presence and indispensability on the international stage as a chemistry-oriented business group that is conscious of the global environment and CSR.

Form a globally competitive corporate group that is highly motivated and ready to take on challenges and enhance the comprehensive value of the entire Group so as to make enormous progress.

Management Strategies

Development and expansion of growth business areas

Create value through increased efforts in major domains (agriculture, medicine, environment and information)

Efforts to achieve globalization

Develop differentiated products and business capabilities
Establish globally competitive supply chains
Develop human resources who can be deployed globally

Reform to grow into a corporate group truly sought after by society

Manage our business in a way that takes account of the global environment and CSR, with safety as a basic premise

■ Nippon Soda Group’s business

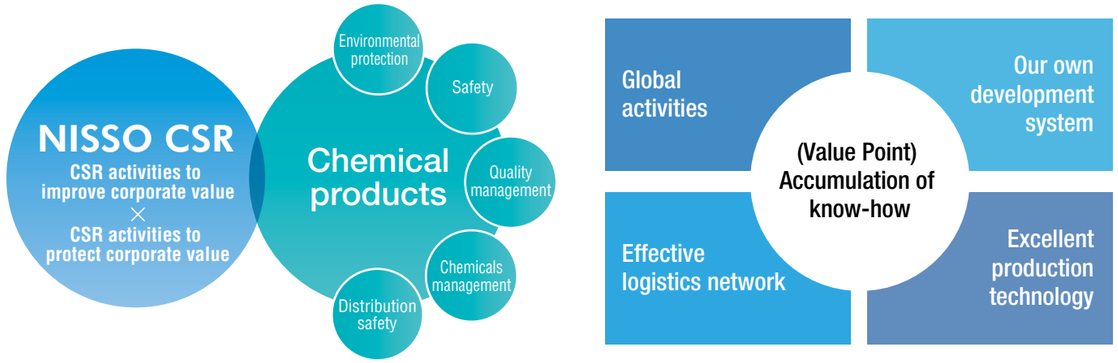
Chemicals Business Division

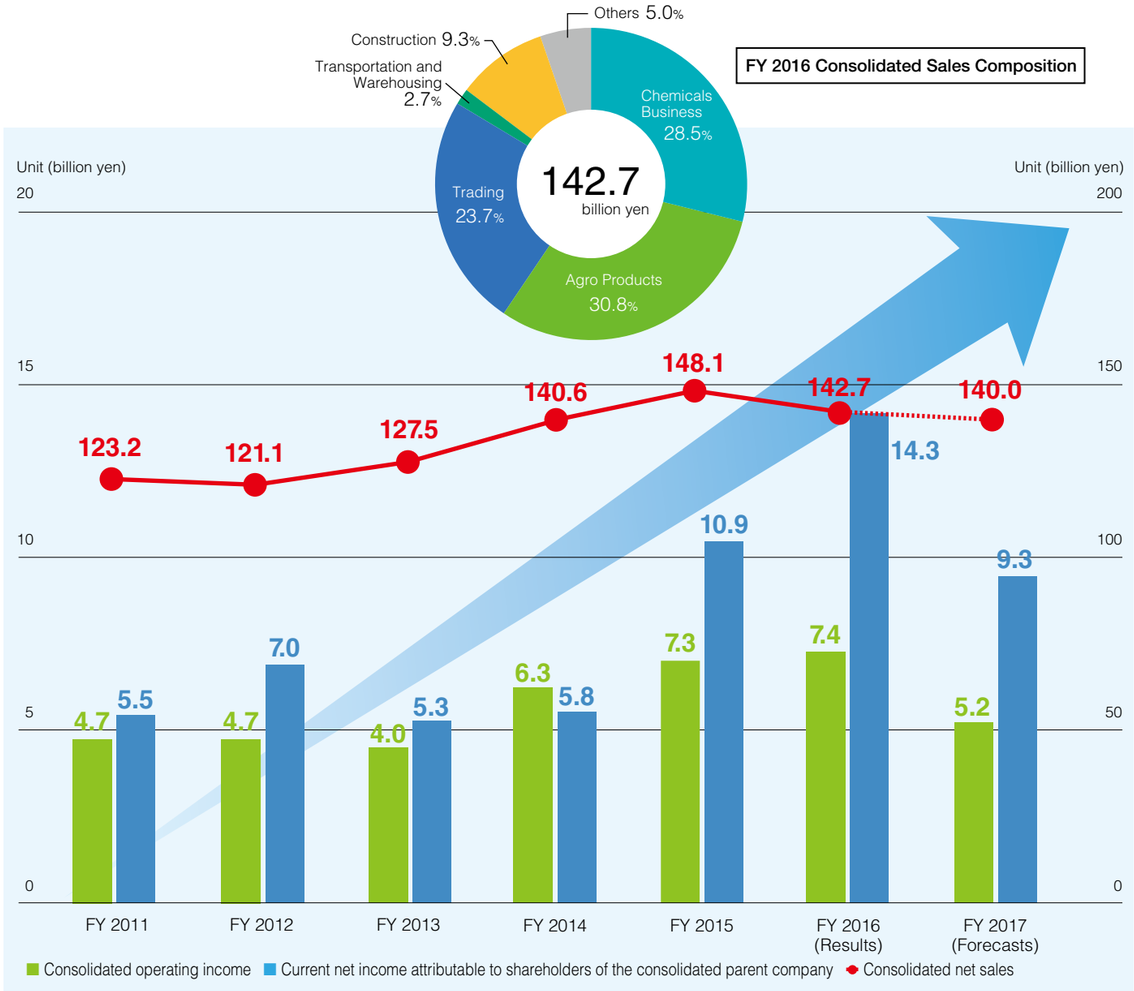
Since our foundation in 1920, we have supplied various kinds of basic chemicals, with a traditional focus on caustic soda and chlorine. Our product variation has increased as industries in Japan have developed and our product line now includes caustic soda, chlorine/hydrochloric acid, caustic potash, potassium carbonate, soda cyanide and phosphorous compounds, which are widely distributed both in and outside Japan. In addition, we also supply a vast variety of other chemicals, such as pharmaceuticals, functional chemicals and environmental chemicals.

Agro Products Division

Since the 1950s, when we first entered the agrochemical industry, Nippon Soda has supplied various types of effective and safe agrochemical products. Nabu, a crop herbicide that was launched in 1981, is now registered in around 29 countries around the world. Topsin M, a long-selling fungicide ever since its launch in 1971, is widely used for treating fruit trees and vegetables. In the insecticides and miticides segment, after having largely focused on developing miticides, we launched the insecticide Mospilan in 1995. Mospilan is highly effective in exterminating various kinds of pests, including hard-to-control pests, and has been well received around the world.

■ Value creation model

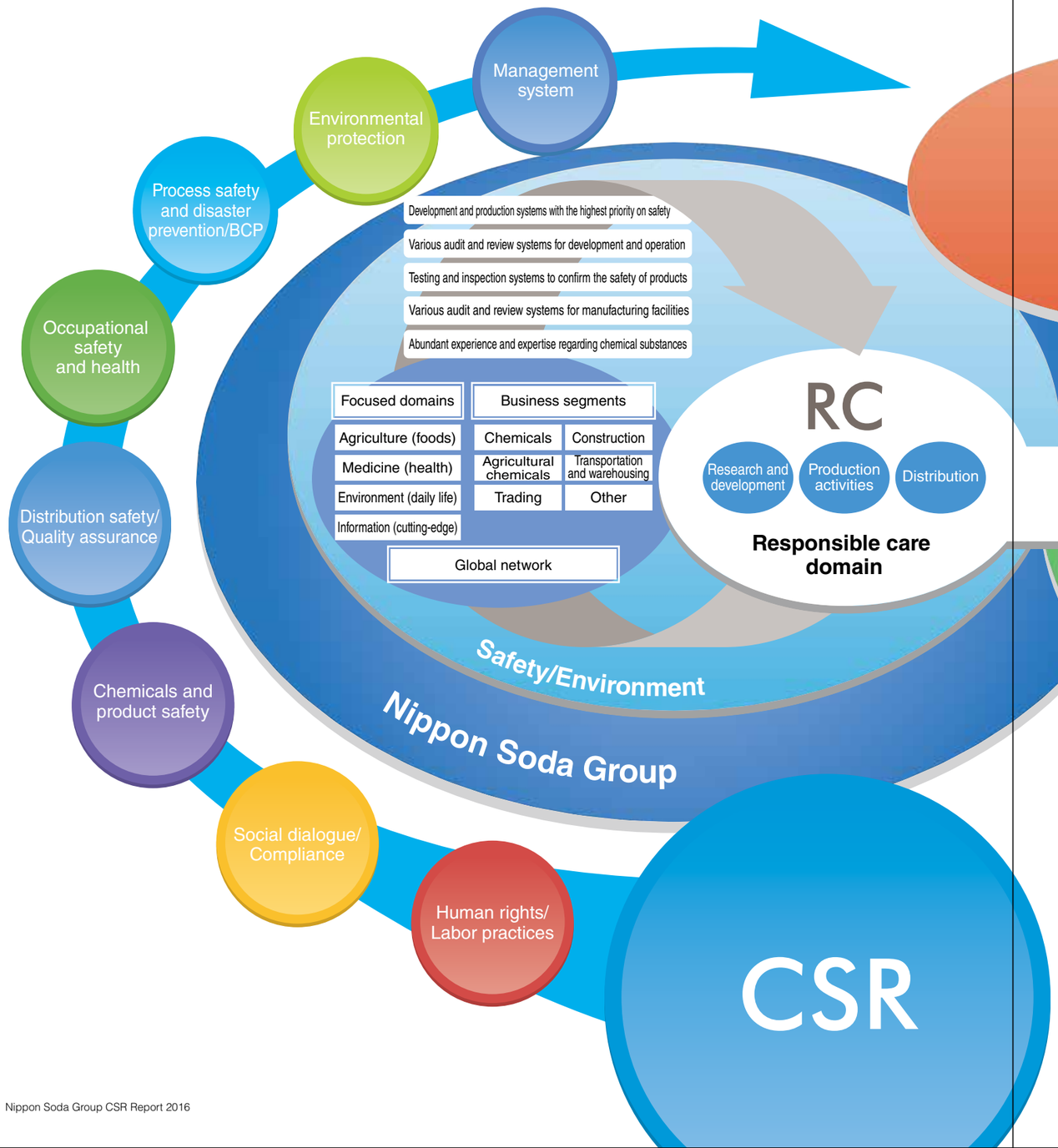




Creation of Nippon Soda Group's Value

As a chemical manufacturer developing and supplying safe, useful and environment-friendly products, we are committed to the development of a sustainable society.
As such, we are cultivating harmonious relationships with our stakeholders and providing society with new value.

CSR activities to protect corporate value



Nisso Safety and Nisso Quality

To ensure socially and environmentally conscious "Nisso Safety" and "Nisso Quality" in all aspects of our business, we implement the following activities:

RC activities

We give consideration to safety and the environment in all processes, from research and development of products to their production, distribution, use, final consumption and disposal.

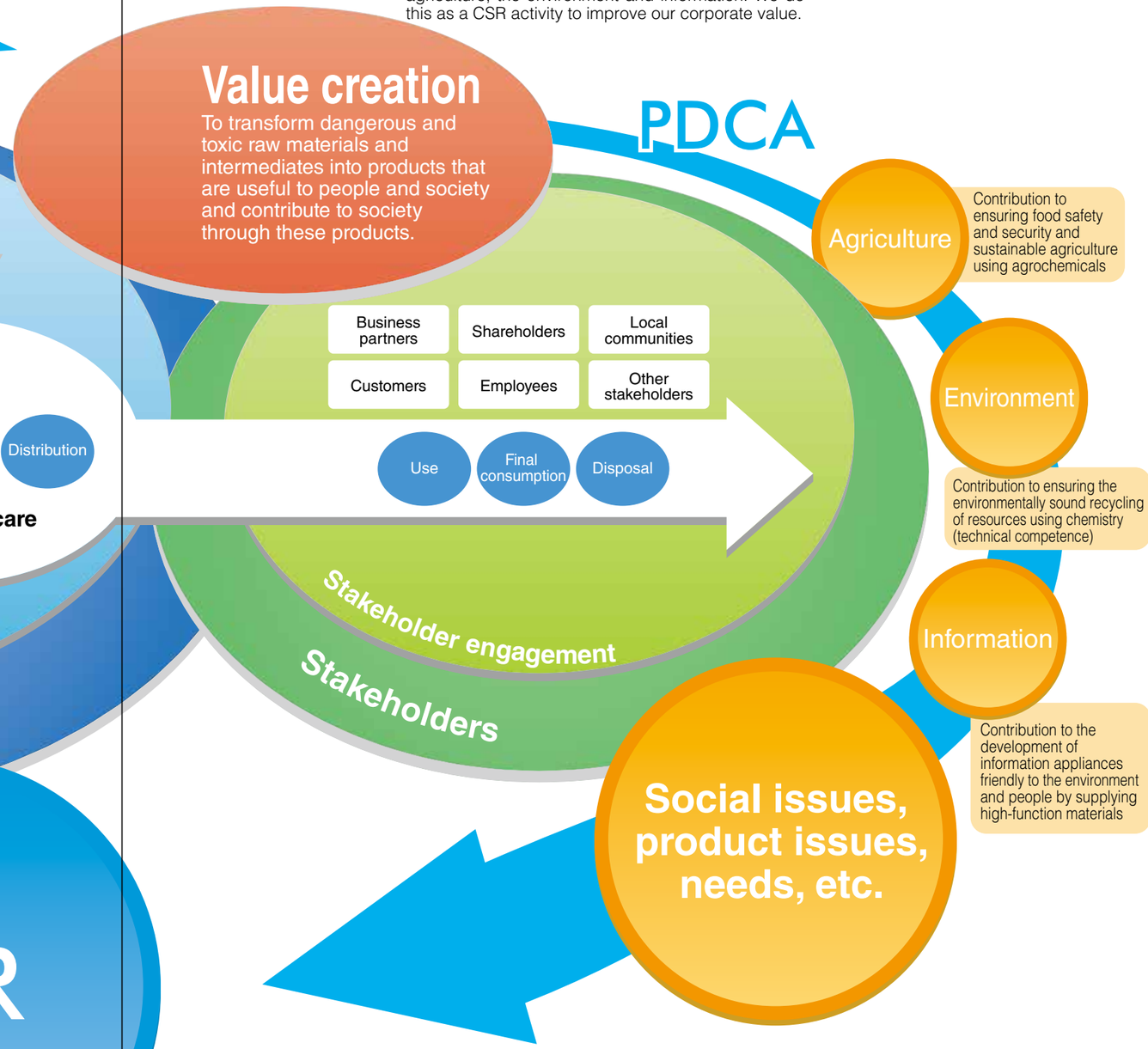
CSR activities

According to the materiality principle, we identify and address material CSR aspects in the areas of environmental protection, process safety and disaster prevention/BCP, occupational safety and health, distribution safety/quality assurance, chemicals and product safety, social dialogue/compliance, and human rights/labor practices. We do this as a CSR activity to protect our corporate value.

According to the materiality principle, we identify and address material CSR aspects in the areas of agriculture, the environment and information. We do this as a CSR activity to improve our corporate value.

Safety and Environment

Production system to maintain Nisso Safety and Nisso Quality: Development and production systems with the highest priority on safety; Various audit and review systems for development and operation; Testing and inspection systems to confirm the safety of products; Various audit and review systems for manufacturing facilities; Abundant experience and expertise regarding chemical substances



CSR activities to improve corporate value

Materiality Identification

Material issues (priority issues) that should be addressed by the Nippon Soda Group

The Nippon Soda Group started implementing responsible care (RC) activities in 1998. This provided the starting point for our CSR activities. In 2012, our RC and CSR activities were integrated and collectively referred to as CSR activities. Our first environmental report was published in 2000. It was renamed the RC Report in 2006 and the CSR Report for fiscal 2013.

Since the Nippon Soda Group is mainly engaged in manufacturing chemical products, its CSR activities center on RC activities and our major focus has been on CSR activities intended to protect the corporate value, aiming to minimize negative impacts. Compared to these efforts, our efforts to augment positive impacts—or CSR activities to improve the corporate value—have not yet been sufficient to meet the GRI's G4 guidelines, such as the identification of material issues and the establishment of KPIs, both of which contribute to solving social issues. As this had been pointed out at stakeholder engagement meetings, in fiscal 2016 CSR activities we started working to improve our corporate value in compliance with the GRI's G4 guidelines.

As explained in this section, the Nippon Soda Group will identify material CSR aspects and evaluate our performance using KPIs. KPIs will be determined in fiscal 2017 and are scheduled to be presented in the CSR Report 2017.

Explanations

[GRI's G4 guidelines]
The Global Reporting Initiative (GRI), a non-profit organization headquartered in the Netherlands, is an official collaborative organization of the United Nations Environmental Programme (UNEP). Its mission is to develop sustainability reporting guidelines. The GRI Guidelines, which were developed through discussion with representatives from different countries, serve as the most widely used sustainability reporting framework in the world.

The G4 guidelines, the most up-to-date version of the GRI Guidelines, were launched in May 2013. The G4 guidelines require a reporting organization to identify material aspects and make detailed reports on them as well as to disclose reasons for why these aspects have been identified. The aim is to provide readers with information about the activities, products and services of the reporting organization that have the most significant impacts, in a way that is more understandable and more accurate.

[Materiality]
Materiality is an important factor that has a significant impact on financial performance. The principle of materiality is applied in accounting. In recent years, the concept of materiality has been extended and applied to managing material aspects in a wide range of CSR activities. An increasing number of companies now include the concept of materiality in their published reports.

[KPI]
KPI stands for "key performance indicator." KPIs are used to monitor a specific business process to achieve goals.

Materiality Identification

The Nippon Soda Group focuses its business mainly on four areas essential for the sound development of society: agriculture, medicine, the environment and information. It contributes to the development of society by providing a constant stream of new and useful products and businesses.

We will continue to pursue RC activities centering on production activities as part of our efforts to enhance CSR activities to protect our corporate value. Our efforts to enhance CSR activities to improve our corporate value will also be continued into the future through our efforts to adapt to ever-changing social trends and the issues stakeholders consider important. As medium- and long-term material areas, which are important factors in CSR activities, we have identified agriculture, the environment and information, based on the motto of the Nippon Soda Group: "Creating New Value through the Power of Chemistry and Contributing to Society through Products." The identification of material areas for this report was performed mainly on the basis of activities conducted by Nippon Soda Co., Ltd., which will be gradually expanded throughout the group companies.

Materiality to the Nippon Soda Group

1. The long-term vision defines the Nippon Soda Group's main business focus to be on agriculture, medicine, the environment and information, which are essential for the development of a sound society. It moreover states that the Group shall contribute to society at large by providing a constant stream of new and useful products and businesses. Priority activities defined in the vision include the expansion of growth drivers.

2. We have identified medium- and long-term material issues by comprehensively taking into account areas essential for the development of a sound society, such as agriculture, medicine, the environment and information, as well as sales ratios, growth drivers and other factors that are defined in the long-term vision.

Materiality to stakeholders

1 2030 Agenda for Sustainable Development

At the United Nations Sustainable Development Summit 2015 held on September 25, 2015, UN member states adopted the 2030 Agenda for Sustainable Development, which includes a series of Sustainable Development Goals (SDGs), also called Global Goals.

The SDGs comprise 17 goals. The Fact Sheet about these 17 goals includes the following goals related to agriculture and the environment, two of the four areas where the Nippon Soda Group should focus its development efforts, on which particular emphasis should be placed in terms of materiality:

- Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture. Related to agricultural and food issues
- Goal 6: Ensure availability and sustainable management of water and sanitation for all. Related to environmental issues (water)
- Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Related to environmental issues (waste)
- Goal 12: Ensure sustainable consumption and production patterns. Related to environmental issues (water, waste)

2 Social issues faced by the information society

Social issues in the area of information, one of the four areas that the Nippon Soda Group should focus its development efforts, include needs for the following:

- Information appliances that anybody can use
- User-friendly and environment-friendly (chemically and physically non-hazardous) information appliances

Materiality Identification Process

Step 1 Identification and prioritization

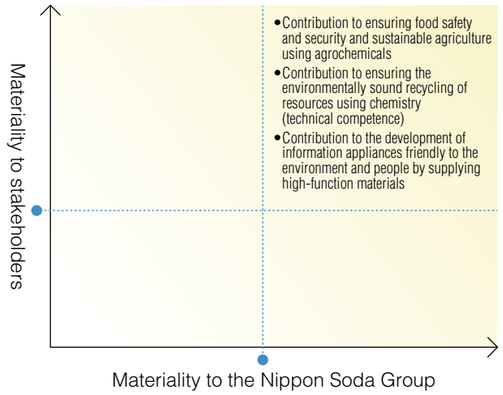
1. The material issue for the Nippon Soda Group in its CSR activities to protect the corporate value was defined as continuous efforts to minimize impacts on people and the environment, with a recognition that, as a chemical manufacturer, we deal with a wide variety of chemicals.
2. Material issues for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

Materiality to stakeholders

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

Materiality to the Nippon Soda Group

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



Step 2 Validation and identification through expert dialogue

1. We held a dialogue with experts to see if there were any discrepancies between the material issues we identified and those that we should consider and recognize in terms of agriculture, the environment and information. (December 8, 2015) ▶For details, see pages 13 and 14.

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

- Each company has its own approach to materiality analysis, some start with social issues and some with their medium-term/long-term vision.
- Many companies select KPIs in the next step.
- I think you should expand the scope of issues to be addressed in the areas of the environment and information to make it as wide as the scope of issues associated with agrochemicals.
- I was convinced that Nippon Soda is sincerely addressing this issue.

At an expert dialogue
Background starting from the right: Mr. Mizukami, Mr. Takegahara, Mr. Nakazawa, Ms. Horiuchi

Participants in the dialogue (with titles at the time of the dialogue)

- Experts
  Keisuke Takegahara, General Manager, Environmental Initiative & Corporate Social Responsibility-Support Department, Development Bank of Japan Inc.
  Takehiko Mizukami, Vice President, Japan CSV Business Development Organization
  Note) CSV stands for "Creating Shared Value."
- Observers
  Nobukazu Nakazawa, Vice President, Environmental Initiative & Corporate Social Responsibility-Support Department, Development Bank of Japan Inc.
  Haruka Horiuchi, Division 1, Corporate Finance Department, Development Bank of Japan Inc.
- Nippon Soda Co., Ltd.
  Masahito Ikeda, Ph.D., Executive Officer, General Manager, Corporate Social Responsibility Department
  Takashi Kishimoto, Executive Officer, Vice Manager, Research & Development Division
  Kiyotaka Machii, Manager, Corporate Planning Department
  Atsushi Ogihara, Group Leader, Environment and Quality Management Group, Corporate Social Responsibility Department
  Toshifumi Kuwagata, Manager, Business Strategy & Administration Department, Agro Products Division
  Toshiyuki Kato, General Manager, 1st Environmental Chemicals Department, Chemicals Business Division
  Hayato Oono, General Manager, Functional Chemicals Business Department, Chemicals Business Division
  Hidetaka Irie, Manager, Chemical Development Department, Chemicals Business Division

2. After the dialogue, we made corrections based on participants' opinions and identified material issues that the Nippon Soda Group should address, which have been approved by experts.

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

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

Step 4 Implementation of PDCA

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

Material issues that should be addressed by the Nippon Soda Group

The materiality was determined as shown below through Steps 1 to 4 described above:

—Material issues that should be addressed by the Nippon Soda Group—

Creating New Value through the Power of Chemistry and Contributing to Society through Products as a Chemical Group

CSR activities to improve corporate value

Domain	Ideal state 10 years from now	Material issues that improve corporate value	Pages containing details
Agriculture	Chemical group addressing agricultural and food issues	Contribution to ensuring food safety and security and sustainable agriculture using agrochemicals · Increase in food and feed production · Diversification of crop protection · Improvement of user safety (safety of chemicals and products)	pp. 15-16
Environment	Chemical group proactively addressing global environmental issues	Contribution to ensuring the environmentally sound recycling of resources using chemistry (technical competence) · Steady supply of water resources · Reduction of environmental impacts caused by waste	pp. 17-18
Information	Chemical group supporting the development of the information and electronics field by supplying materials	Contribution to the development of information appliances friendly to the environment and people by supplying high-function materials · Supply of high-function materials friendly to the environment and people	pp. 19-20

CSR activities to protect corporate value

Core subjects/Codes	Theme	Stakeholders	Material issues that protect corporate value	Pages containing details
Environmental protection	Energy issues	All people	· Promotion of active energy saving	p.38
	Air and water quality pollution	All people	· Reduction of environmental impacts	p.40
	Resource depletion	All people	· Promotion of 3Rs	p.39
	Waste disposal	Local communities	· Promotion of zero emissions	p.39
	Global warming	All people	· Reduction of CO_2 emissions	p.38
	Biodiversity	All people	· Reduction of impacts on biodiversity and ecosystems	p.41
Process safety & disaster prevention/BCP	Accidents and disasters at chemical plants	Local communities, employees, etc.	· Prevention of accidents at plants through risk management	p.43
	Discontinuation of product supply	Customers	· Improvement of BCP	p.45
Occupational safety and health	Occupational accidents of workers	Employees	· Prevention of accidents through risk management	p.47
	Diseases of workers	Employees	· Proactive management of workers' health	p.50
Distribution safety, Quality assurance and Consumer issues	Accidents during distribution	Those engaged in distribution, etc.	· Prevention of distribution accidents through risk management	p.53
	Complaints about products	Customers	· Prevention of complaints through risk management	pp.17,55
	Various product-related issues	Customers	· Identification of and response to consumer issues	p.56
Chemicals and product safety	Hazards and toxicities associated with chemical substances and products	Employees, local communities, customers	· Management of the safety of chemicals and products with a chemical substance control system	p.57
			· Safety education on chemicals and products	p.58
Community involvement & development, etc.	Violations of laws and regulations	Employees	· Compliance with laws and regulations with a legal compliance system	p.29
	Distrust of the company	Local communities, customers, business partners, etc.	· Organization of local gatherings (risk communication) Transparency and accountability practice	p.29 p.61
Human rights/ Labor practices	Discrimination	Employees	· Acceptance of diversity	p.33
	Lack of motivation to and pride in work	Employees	· Rewarding workplace that employees can be proud of	p.33

Stakeholder dialogue held on November 20, 2015; Participants' names in the text are presented without honorifics; Titles are as of the time of the dialogue.

A stakeholder dialogue involving the participation of experts was held regarding the identification of material issues that should be addressed by the Nippon Soda Group.

We received many opinions from external experts regarding the CSR activities of the Nippon Soda Group.

In materiality identification for the Nippon Soda Group, representatives of the management team and others had many lively discussions regarding the association between products and services in each of the domains of agriculture, the environment and information and social issues, based on opinions we received from various stakeholders in the past. When we had identified a certain general direction to pursue, in November 2015 we invited external experts to participate in a stakeholder dialogue with the aim of ensuring the objectivity of the Nippon Soda Group ideal and material issues to be identified.

At the dialogue, our staff in charge provided participants with explanations of materiality identification and prioritization and of the materiality identification process in three specific domains (agriculture, the environment and information).

Following the explanations, external experts provided insights and comments on the association between identified material issues and social issues, and impacts that the business of the Nippon Soda Group has on social issues, as well as methods for assessing such impacts. They also reviewed the growth of the Nippon Soda Group and the outcome of the implementation of materiality analysis, and expressed their expectations. In addition, they shared their views on the potential of the Nippon Soda Group 10 years and 20 years from now.

Participants also had a lively discussion on the social significance of CSR activities to improve the corporate value (materiality identification) and CSR activities to protect the corporate value, which the Nippon Soda Group started this fiscal year.

Participants in the dialogue (with titles at the time of the dialogue)

- Experts: Keisuke Takegahara, General Manager, Environmental Initiative & Corporate Social Responsibility-Support Department, Development Bank of Japan Inc. / Takehiko Mizukami, Vice President, Japan CSV Business Development Organization Note) CSV stands for "Creating Shared Value."
- Observers: Nobukazu Nakazawa, Vice President, Environmental Initiative & Corporate Social Responsibility-Support Department, Development Bank of Japan Inc. / Haruka Horiuchi, Division 1, Corporate Finance Department, Development Bank of Japan Inc.
- Nippon Soda Co., Ltd.: Masahito Ikeda, Ph.D., Executive Officer, General Manager, Corporate Social Responsibility Department / Takashi Kishimoto, Executive Officer, Vice Manager, Research & Development Division / Kiyotaka Machii, Manager, Corporate Planning Department / Atsushi Ogihara, Group Leader, Environment and Quality Management Group, Corporate Social Responsibility Department / Toshifumi Kuwagata, Manager, Business Strategy & Administration Department, Agro Products Division / Toshiyuki Kato, General Manager, 1st Environmental Chemicals Department, Chemicals Business Division / Hayato Oono, General Manager, Functional Chemicals Business Department, Chemicals Business Division / Hidetaka Irie, Manager, Chemical Development Department, Chemicals Business Division

Contribute to society with "offensive" elements hidden in "defensive" elements

I was fully convinced that you not only consider the materiality of the company but also carefully consider impacts on society. In implementing activities within the G4 framework, it is important to communicate the story behind non-financial information to stakeholders. With regard to KPIs you are going to discuss, I would suggest that, instead of going deep into details at a product level, you aim to provide qualitative data in such a way as to avoid being misunderstood.

I think it is a good idea to categorize CSR activities into two groups: CSR activities to protect the corporate value and CSR activities to improve the corporate value. I would like to add here that there are "offensive" elements in RC activities, which focus on downside risk management, and that, if you can identify such elements, you can show your company's contribution from various perspectives.

In the agricultural domain, I'm interested in how your company will approach key issues, such as population increase, risks relating to pests and risks relating to climate change, which are medium- and long-term issues that you cannot avoid; and what messages will be generated through the materiality identification process.

Keisuke Takegahara
General Manager, Environmental Initiative & Corporate Social Responsibility-Support Department
Development Bank of Japan Inc.

Expectation for the creation of businesses that solve social issues

You have changed direction from risk communication to G4, which requires more detailed communication to address social issues. I understand that you are now in the first phase, where you focus on products useful to society. I expect that the materiality assessment will help you create businesses useful to society from a long-term perspective and share the process with stakeholders.

In the information domain, I would recommend that you describe your company's approach to social issues in a logical manner, such as sharing your perspective on product life cycles and your contribution to the senior citizen market.

It seems that the ideal state you can aim to achieve at present and growth into the future are mixed together in your discussion. I strongly encourage you to add the potential for new business projects that will bring Nippon Soda's strengths to bear on social issues to your discussion. Writing a story describing your long-term growth will inevitably lead you to the next activity phase.

Takehiko Mizukami
Vice President
Japan CSV Business Development Organization

Toward the sustainable development of society and the company

In cross-departmental discussions in the materiality identification process, we were able to itemize existing business projects and areas with potential for the future from the perspective of CSR activities to improve corporate value, which have positive impacts on society. To promote the materiality concept throughout the Nippon Soda Group, we will have regular opportunities to discuss with stakeholders the value of providing society with our company's products and services and engaging in our corporate activities. If the Nippon Soda Group can contribute to addressing SDGs and social issues in different regions through its activities, I think we can achieve the sustainable development of society and the company.

The next step will include discussions on the development of KPIs in order to achieve our ideal goals 10 years and 20 years from now.

Masahito Ikeda, Ph.D.
Executive Officer
General Manager
Corporate Social Responsibility Department

Special Section 1

Agriculture

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

Development of highly safe, environmentally conscious agrochemicals to meet worldwide needs for crop protection

Worldwide increase in food and feed production

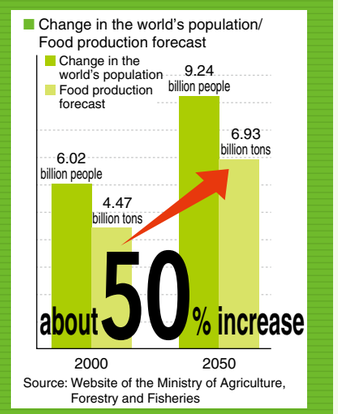
According to an international organization, the world population is expected to increase by about 30% by 2050, reaching over nine billion people. Increasing demand for richer foods will drive up production of pork, beef and other meats, which will decrease feed efficiency and, as a result, require more production of crops used to feed livestock. If we look back at history, the occurrence of revolutions and riots is not unrelated to hunger. In this context, it is no exaggeration to say that meeting the world's ever increasing demand for food and feed grain is an issue that affects world security. This issue must be addressed on a global scale.

Despite the increasing demand for food and feed, the amount of global land available for crop production is limited to that already in use, except in South America and Africa. It is therefore necessary to use agricultural production materials effectively in order to produce agricultural products efficiently and in a stable manner. Agrochemicals, along with fertilizers and agricultural machinery, are essential for protecting crops from pests and weeds, increasing yields and improving quality. Since the development and launch of thiophanate (the active ingredient for Topsin) in 1969, Nippon Soda has discovered and developed many unique active ingredients for agrochemicals using its own technology.

Nippon Soda's original products, such as Topsin M, Trifmine and Pancho (fungicides), along with Mospilan (insecticide), Nissorun (acaricide) and Nabu (herbicide), have been highly recognized by local distributors and users for their high bioactivity and safety to crops. Our products meet the safety standards of Japan, the United States and Europe to ensure higher safety and lower environmental impact. The world market in agrochemicals underwent a contraction in terms of U.S. dollars in 2015 due to the weak currencies of emerging economies and the slowdown of demand for the first time in the six years since 2009. However, considering the necessity of stable and efficient production of agricultural products in the future, the market is expected to continue growing in the medium to long term. It is accordingly expected that Nippon Soda's role will become more important.

Nippon Soda is planning to launch three newly developed agrochemicals in the next five years: NF-171, a fungicide highly effective against Pythium diseases, downy mildews and Phytophthora diseases (to be released in 2017); NA-89, an immediately acting acaricide with a new action mechanism (2019); and NF-180, a fungicide with stable efficacy against a wide range of plant diseases, such as gray mold, scab and rice blast (2021). Safety standards have been strengthened in major countries, resulting in increased costs for developing chemical pesticides. However, Nippon Soda believes that we can best contribute to society through the research and development of agrochemicals that are not only highly effective but also highly safe and environmentally friendly.

We will make further efforts to contribute to society through improving our product portfolio and providing products for Integrated Pest Management (IPM), including biopesticides.



Source: Website of the Ministry of Agriculture, Forestry and Fisheries

Research and development of biopesticides

In addition to chemical pesticides, Nippon Soda is engaged in research and development of biological pesticides, also called biopesticides, which are products containing living organisms, such as microbes and insects, as active ingredients. Nippon Soda started marketing Agrocare WP, a microbial pesticide effective against diseases caused by filamentous fungi, such as powdery mildew and gray mold, in 2010; and Masterpiece WP, which is effective against bacterial diseases, such as bacterial soft rot on potatoes, in 2014. Active ingredients of microbial pesticides exist in nature and have less impact on users and the environment. They specifically act on the target pest and have less impact on organisms other than the target. Pests are less likely to develop resistance to these pesticides. Furthermore, there are no limitations on the number of times they can be used. They are also safe to use for organic farming.

Masterpiece WP

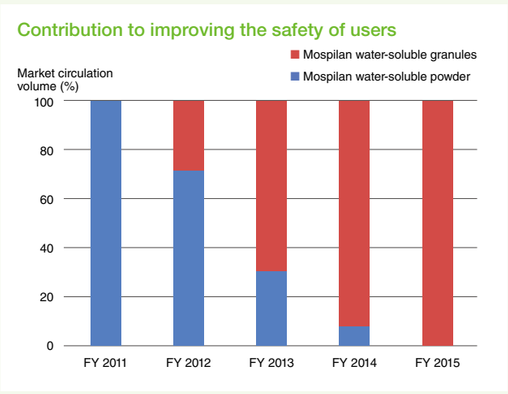
Agrocare WP

Improvement of user safety

In developing products, Nippon Soda takes into consideration the safety of users. In 2011, we started marketing the insecticide Mospilan, one of Nippon Soda's signature products, in the form of water-soluble granules. Water-soluble granules produce less dust when the package is opened and again when the contents are diluted than do conventional water-soluble agents, reducing the exposure of users to agrochemicals. Nippon Soda completely replaced Mospilan in a water-soluble powder form with Mospilan in a water-soluble granule form in 2014, three years after the launch of the new product.

Mospilan water-soluble powder　Mospilan water-soluble granules

Comparison of the amount of dust produced (3 seconds after dropping 1 gram)



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

Contribution to hygienic management of water in Japan and abroad to make effective use of limited water resources

Stable supply of water resources

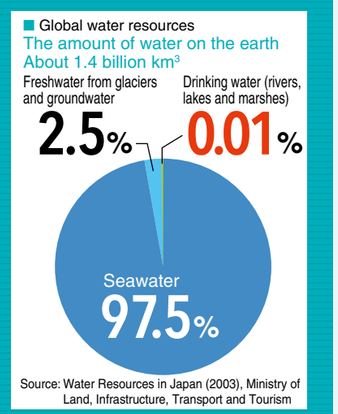
The 2030 Agenda for Sustainable Development adopted at the United Nations Sustainable Development Summit held in September 2015 includes a goal to ensure availability and sustainable management of water and sanitation for all as one of the Sustainable Development Goals (SDGs) to end poverty in all its forms everywhere and promote action to combat climate change.

As the world population increases, so does the consumption of water. This includes not only the amount of water consumed in daily life such as for drinking, flushing the toilet, cooking and other domestic uses but also the amount of industrial and agricultural water and water used for other non-domestic purposes. However, the amount of usable water available from rivers, lakes and marshes is very limited because most of the Earth's water is in the form of seawater.

It has become more and more important to use our limited water resources effectively. We need to ensure the supply of safe and hygienic drinking water and environmental hygiene through appropriate treatment of wastewater.

The most inexpensive and effective means of water sterilization and disinfection and hygienic management is the use of chlorine. Solid chlorine is particularly easy to handle and no large-scale facilities are required. It is, therefore, used throughout the world.

NISSO HI-CHLON, Nippon Soda's solid chlorine agent, has been sold for more than 50 years and is used not only in Japan but all over the world. NISSO HI-CHLON contributes to the hygienic management of water. We are proud that we play a part in the effective use of limited water resources.



A booth at Sportec 2015

NISSO HI-CHLON

Reduction of environmental impact of waste (immobilization of heavy metals)

Today, more than half of the world's population lives in urban areas, and this proportion is expected to continue to increase. The 2030 Agenda for Sustainable Development adopted at the United Nations Sustainable Development Summit points out that, while the concentration of functions in urban areas may increase efficiency, bring technological innovation and reduce the consumption of resources and energy, it is exerting pressure on the living environment and public health.

Appropriate waste treatment in urban areas is important to ensure a hygienic living environment and maximize urban functioning.

HIDION, Nippon Soda's heavy metal stabilizer, is used to insolubilize heavy metals contained in fly ash from waste incineration. In Japan, it is a legal obligation to insolubilize heavy metals, mainly lead, which account for a large proportion of fly ash. HIDION is highly recognized as an insolubilizing agent for these heavy metals.

Reduction of environmental impact of waste (PCB detoxification treatment)

Nippon Soda developed its own technology using its metallic sodium product and successfully detoxified polychlorinated biphenyls (PCBs).

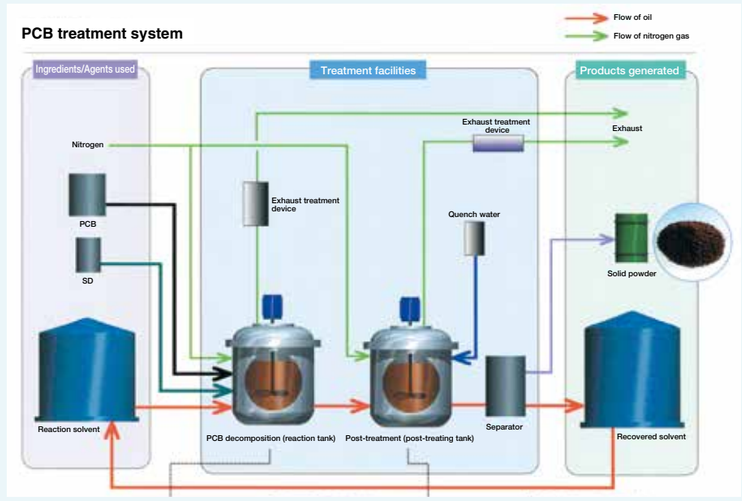
PCBs exhibit excellent chemical stability and excellent insulation and non-combustibility properties. They were used for insulating oil for electric equipment, such as transformers and condensers, and as a heating medium in heating exchangers until they were found to have chronic toxicity, a discovery that gave rise to public concern. As a result, the government banned the production and import of PCBs and the transport of PCBs that were being used and stored. Because of their stability, PCBs are persistent in the environment. Back then, due to their persistence, high-temperature combustion incineration was the only approved method for treating PCBs. This method requires highly advanced technology and a large investment in facilities, which made it difficult to treat PCBs efficiently. For this reason, companies using PCBs had to keep them stored without treatment.

Immediately after the concern over PCBs was raised, Nippon Soda started discussing technology for the chemical treatment of PCBs. In 1998, the Waste Management and Public Cleansing Act was revised to approve the use of chemical treatment methods. In response, we conducted repeated basic experimentation and verification tests to improve our existing technology and successfully developed a PCB detoxification treatment technology, the SD (sodium dispersion) method, which was approved by the government.

One of the properties of the SD method is that chlorine is removed from PCBs to detoxify them by reacting them with micronized metallic sodium (SD), our product.

The method is mainly used to treat high-concentration PCBs present in transformers and condensers, and low-concentration PCB-contaminated oil held by electric power companies. Both types of PCBs can be treated by the SD method. Facilities for applying the SD method are environmentally friendly because the reactions occur at low temperatures (70 to 160°C) and normal pressure and no water is discharged. In addition, detoxified oil can be used as fuel. In this respect, the facilities are truly recycling-oriented.

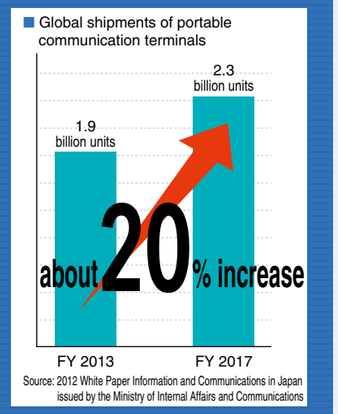
In Japan, three companies/organizations and four facilities have so far adopted Nippon Soda's SD method. All the facilities have been successful in detoxifying PCBs. (Of them, one company completed its treatment in FY 2016.)



Nippon Soda's technology is solving PCB contamination problems, a dark legacy from the past, and allows detoxified oil to be used as fuel, thus contributing to the environmentally sound recycling of resources.

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

Supply of highly functional polymers that meet present-day needs to continuously support the development of the information society



Flexible response to the development of society and technology

Nippon Soda has been engaged in the polymer business since the 1970s and has contributed to society by supplying high-performance materials to various kinds of industries. In recent years, we have also been supplying high-performance materials for rapidly developing information processing devices based on technologies that we have developed over many years. Although the performance demanded of materials used in these devices is high, we respond adaptively to the advancement of society and technology to supply materials that support the development of the information and electronic fields. We will continue to contribute to society as a chemical group company by creating new value through the power of chemistry and providing functional products friendly to people and the environment.

Advancement of Nippon Soda's polymer technology

Nippon Soda started developing products using living anionic polymerization as the core technology in the 1970s. In the 1990s, we successfully established technology for ultra-high purification of polymers to expand the development of products for electronic materials. In the 2000s, we improved these two core technologies, living anionic polymerization and ultra-high polymer purification, and established blocking technology to incorporate multiple functional units randomly into one molecular chain. This technology continues to advance. Highly functional polymers developed using Nippon Soda's technologies have been introduced and become indispensable in the electronic material field and also in the information equipment industry.

Efforts to address issues faced by the information society

Among issues faced by the information society, Nippon Soda focuses particularly on the following two issues:
1) Supply of functional materials supporting information appliances that anybody can use
2) Supply of functional polymers supporting information appliances friendly to people and the environment

Supply of functional materials supporting information appliances that anybody can use

The use of broadband Internet technologies has enabled us to acquire information anytime, anywhere. The rapid development of information appliances has significantly affected our lifestyle and it has become necessary to provide information processing devices that can also be used by elderly people and disabled people. In response, the concept of universal design has been advocated since 1985. This concept focuses on eliminating barriers for users and providing simple devices that can be operated by anybody. Schools are expected to provide education to prepare children to live in the information society and students use information processing devices on a daily basis. In light of all of this, the push to provide information appliances that can be used by anybody in order to extend their benefits to all is inevitable. Our mission is to supply materials for such information appliances.

In recent years, because of the necessity for information processing devices to process large amounts of information, there has been increasing demand for higher-performance semiconductor-related products. Nippon Soda supplies high-purity and highly functional materials that meet this demand as well as highly functional materials essential to touchscreens of smartphones and tablet terminals. Touchscreen devices have been rapidly popularized because anyone can use them easily. At present, smartphones and tablet terminals have a touchscreen monitor as a standard feature.

In developing touchscreens, Nippon Soda places high importance on legibility, that is, the clarity with which images and letters can be read. Many people now carry mobile devices on a daily basis and so ask for lighter and thinner terminals. Specific properties required for these products are listed below:

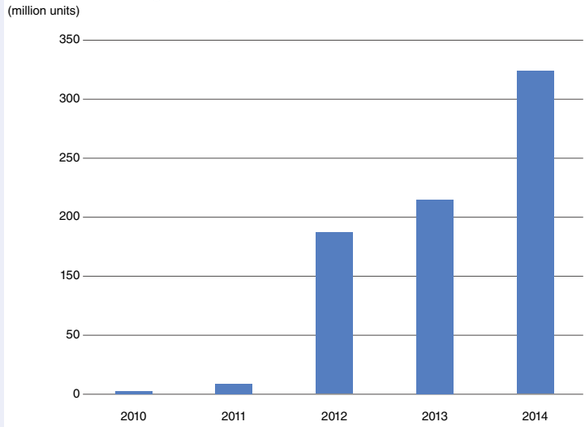
Properties required for touchscreen components

- High optical reliability (high transmissivity, no discoloration over time)
- Thinner touchscreen components (lightweight)
- Adhesive property of touchscreen components (high strength)

Nippon Soda provides polymers that meet the aforementioned properties for touchscreen components. These polymers do not contain units that affect transmissivity and discoloration over time, are lightweight and highly strong, and were developed using polymer technology that we have been refining over many years.

Global shipments of information processing devices, such as smartphones and tablets, totaled 1.9 billion units in 2012 alone according to 2012 White Paper Information and Communications in Japan issued by the Ministry of Internal Affairs and Communications. They are projected to reach 2.3 billion units in 2016. The number of shipments of our highly functional polymers used for information processing devices in 2014 indicates that they are used widely for portable communication terminals around the world. (Figure 1)

[Figure 1] Shipments of portable communication terminals using our polymers (estimate)



Supply of functional polymers that support information appliances friendly to people and the environment

Information processing devices used by all people must be safe and comfortable to use. Amid growing demand for stricter management of chemical substances in recent years from social and environmental perspectives, Nippon Soda is committed to developing highly functional polymers in compliance with the law and pursues safety from the design stage. Our specific efforts to provide highly functional polymers friendly to people and the environment include the use of ingredients that do not contain hazardous substances, and the development of non-halogen epoxy polymers and liquid polymers that do not contain organic solvents.

Amid our rapidly advancing information society, we provide highly functional products to support the development of the information and electronic fields. We will continue our efforts to provide functional materials supporting information appliances that can be used by anybody and are friendly to people and the environment in order to support the development of these fields, and to contribute to society as a chemical group company by providing products through the power of chemistry.

CSR Topics

Research and Development of the Nippon Soda Group Contributing to Society through the Power of Chemistry

Contribution to creating a prosperous and safe society in line with the following three priorities: integration of knowledge, integration of technology, and globalization

Nippon Soda's efforts are focused on improving existing products and the early commercialization of new products with an emphasis on research and development that meets changing needs and the creation of fundamental technologies mainly in the agro product business area, and the chemicals business area that mainly deals with functional materials and precision organic synthesis, which are the priority business areas of Nippon Soda. This section provides information on recent R&D-related topics.

Agro Products Business

Application for registration of agents and development of biopesticides in Japan and abroad

We completed the application for registration of NF-171, a new class of fungicide that can be used to treat vegetables, rice, turf grass and seeds, in September 2014 and are aiming to obtain approval for registration in 2017. We are also preparing to apply for its registration outside of Japan.

The development of NA-89, an acaricide with a new action mechanism, is progressing according to plan. We are aiming to file an application for registration in Japan in 2016. In 2015, we started full-scale development of NF-180, a fungicide that is effective against a wide range of diseases.

In the development of new agrochemicals, our emphasis is on ensuring "safe and trusted food products." We therefore conduct toxicity studies, metabolic studies and other studies to carefully assess the possible effects of candidate agrochemicals on the human body. In these studies, the behavior of their metabolites and degradation products in animals, plants and the environment is also studied and analyzed.

In selecting new candidate agrochemicals, with an eye on biodiversity, we only include agents that are selectively effective against pests that are currently present or will become problematic in the future in food production settings, demonstrate their activity at a low dose and leave a low level of chemical residues.

In addition to chemical pesticides, we focus our business on developing products for turf grass maintenance, algae control and other greening measures as well as biopesticides. AgroCare, Nippon Soda's first biopesticide, has been on the market since 2010 and Masterpiece, another biopesticide, which is effective against bacterial diseases, since February 2014. We are continuing to consider possible new biopesticides that may be ripe for discovery. Taking into account the preservation of biodiversity, we will also place emphasis on improving biopesticide products using the vast and diverse abilities of microorganisms and developing highly safe, new methods for controlling pests.

Testing of agrochemicals

New Products

Registration application scheduled to be filed in 2016

NA-89

NA-89, a new acaricide discovered by Nippon Soda, is being developed with the aim of filing an application for registration in Japan in 2016. The acaricide is highly effective against spider mites. In the new agricultural chemical feasibility study that has been ongoing since 2013, the excellent effects of NA-89 in controlling spider mites on fruit trees, vegetables and tea leaves have been confirmed. With its new action mechanism, it is also effective against a population of spider mites that have developed resistance to existing acaricides. Furthermore, NA-89 is less disruptive to beneficial insects and natural enemies and can be used in Integrated Pest Management (IPM). With these properties, we believe NA-89 can contribute to the stable, efficient production of agricultural products by controlling spider mites.

Precision gravure coating machine

Chemicals Business

Development of high value-added products and creation of new products

In the chemicals business area, our primary focus is on the development of high value-added products based on our own unique technologies to create fundamental technologies and promote research and development that meets changing needs.

Functional materials

We promote the development of new polymer materials using precision polymerization technology, thin film lubricant materials, coating-substrate materials, inclusion catalysts for epoxy resin curing, and visible light-activated photocatalyst agents. In the second half of FY 2015, we launched and started marketing a visible light-activated photocatalyst agent. Our efforts are also directed toward enhancing the competitiveness of, among others, cellulose derivatives, exemplified by Nisso HPC, which is used as a pharmaceutical and food excipient; polybutadiene products, which are additives effective in improving the properties of various plastic resins and compositions; color developers; polysilane products; and eco-care products. We are, at the same time, expanding our business into new markets. In response to the public's increasing concerns over environmental protection and safety, we are considering taking a new approach to the development of our business, in addition to the current eco-friendly business and water treatment business, to support the creation of a hygienic and comfortable social environment.

Precision organic synthesis

Our aim is to create new products by developing important intermediates using phosgene, hydrocyanic acid and other raw materials unique to Nippon Soda as well as new manufacturing technology.

We will continue to place emphasis on developing high value-added products using our unique proprietary technologies so that we can create new products that consistently take into account social needs and the environment in order to help create a prosperous and safe society.

Polybutadiene (polymer material)

New Products

Antiviral effects*

99.99%

A visible light-activated type featuring antibacterial and antiviral effects has been added to photocatalyst coating agent BISTRATOR. This type of BISTRAITER inactivates 99.99% of viruses by exposing them to fluorescent light and LEDs designed for indoor lighting. It is highly safe because it works through the effect of photocatalysis. As a result of the spread of new-type influenza viruses and norovirus, its antiviral effects have drawn attention and the coating agent is now marketed for use mainly for interior building materials for medical facilities and elderly care facilities.

While conventional-type photocatalyst coating agents are effective only in outdoor settings, the new agents activated by visible light can be used in a wider range of places, including indoor settings.

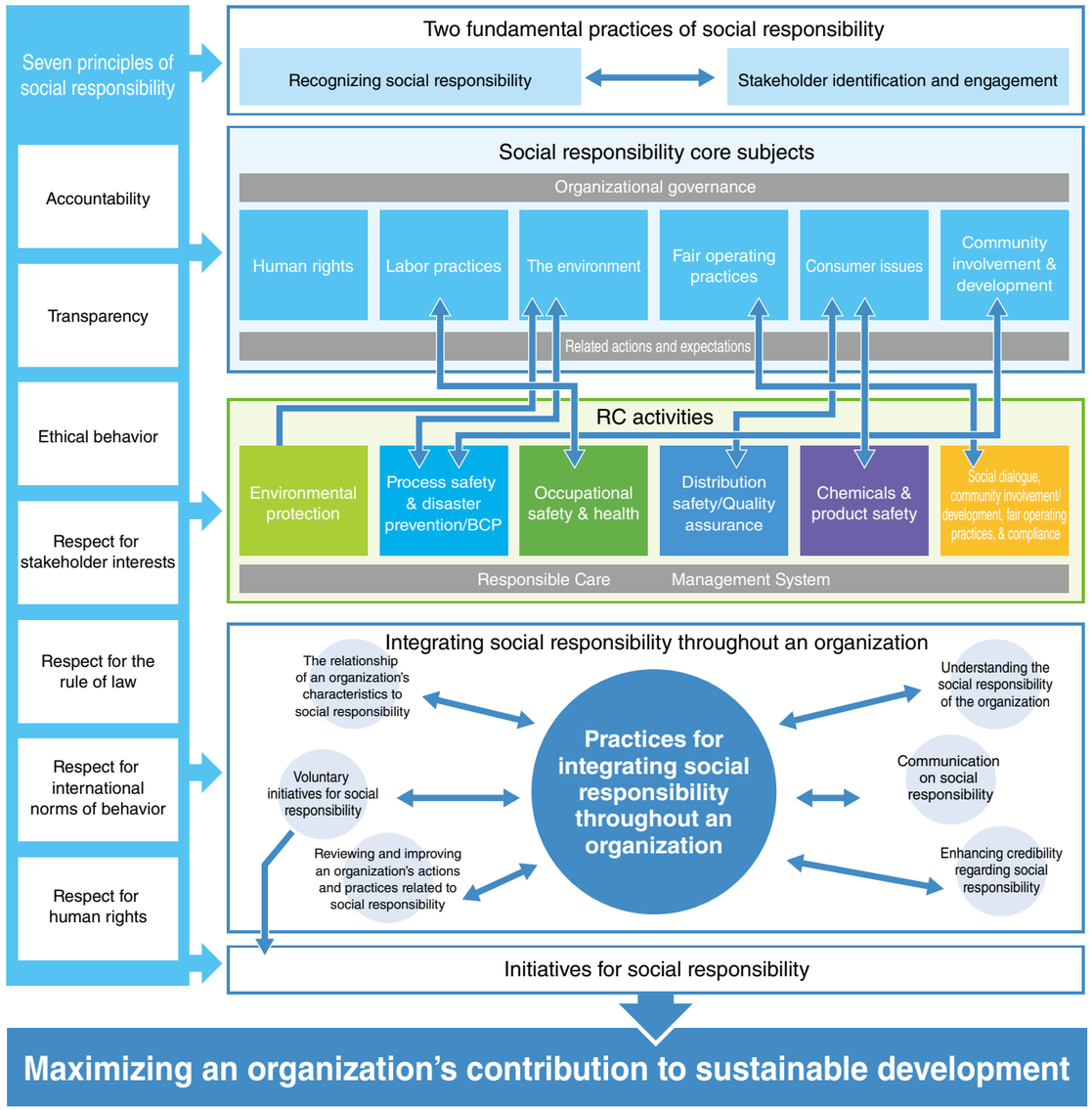
*Antibacterial effects against E. coli: Complying with JIS R 1752; Antiviral effects against bacteriophage Qβ: Complying with JIS R 1756

The Nippon Soda Group's CSR

The Nippon Soda Group's CSR

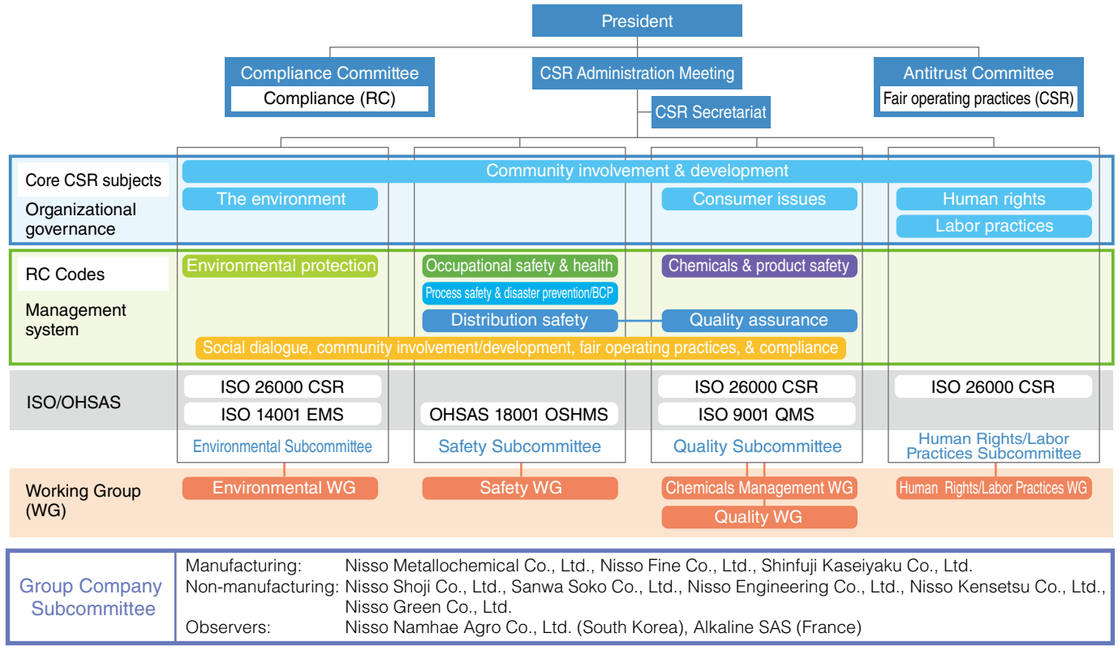
The CSR activities of the Nippon Soda Group include all of the responsible care (RC) codes (activity items). All activity items regarding CSR are based upon the seven principles of social responsibility and, with regard to RC, we always strive to do what is ethically right and to implement proactive measures to reduce risks.

The conceptual diagram of CSR below outlines the relationship between CSR and RC, with RC promotional activity codes (activity items) shown in green. As indicated by the blue arrows, the seven RC Codes and the seven core subjects (activity items) of CSR are closely interrelated with each other. The Nippon Soda Group integrates these activity items and determines the eight policies described on page 26.



CSR Promotion System

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



Group Company Subcommittee	Manufacturing: Nisso Metallochemical Co., Ltd., Nisso Fine Co., Ltd., Shinfuji Kaseiyaku Co., Ltd. Non-manufacturing: Nisso Shoji Co., Ltd., Sanwa Soko Co., Ltd., Nisso Engineering Co., Ltd., Nisso Kensetsu Co., Ltd., Nisso Green Co., Ltd. Observers: Nisso Namhae Agro Co., Ltd. (South Korea), Alkaline SAS (France)

CSR Officers

The following two officers are in charge of CSR activities:

Noriyuki Haketa, Director and Executive Managing Officer, supervises overall CSR activities. He also takes charge of CSR activities in the Human Rights/Labor Practices field.

Masahito Ikeda, Executive Officer, is in charge of CSR activities in fields other than the Human Rights/Labor Practices field.

Noriyuki Haketa
Director and Executive Managing Officer, Overall Supervision and the Corporate Social Responsibility Department, Nippon Soda Co., Ltd. (right)

Masahito Ikeda, Ph.D.
Executive Officer, General Manager of the Corporate Social Responsibility Department, Nippon Soda Co., Ltd. (left)

Comments by Haketa and Ikeda

Nippon Soda will commemorate the 100th anniversary of its foundation in 2020. We are ready to promote CSR activities so that the Nippon Soda Group continues to grow and flourish as a group that contributes to society over the next 100 years as well.

We have been involved in RC activities since October 1998 and CSR activities since fiscal 2013. In fiscal 2016, we identified important CSR activities as solutions to social problems, which we expect will improve the corporate value, and made further efforts to contribute to society through our products.

We pledge to promote the further development of our CSR activities through stakeholder engagement and various other efforts from an even more global perspective, paying even closer attention to social conditions and fulfilling our duties related to transparency and accountability.

New Medium-Term CSR Activity Goals (FY 2017–2020)

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

1. Management system RC and organizational governance CSR		
	Goal	Proper implementation
	(Actions)	Continuous improvement using the PDCA cycle; Increased efforts in implementing measures to prevent problems caused by human error
2. Environmental protection RC/CSR		
(1) Environmental abnormalities	Goal	Zero events
	(Actions)	Implementation of measures for reducing risks by evaluating environmental impacts; Planning and implementation of measures to prevent problems caused by human error
(2) Energy		
1) Energy use per unit of production	Goal	Annual improvement of 1% and 4% improvement by the end of the New Medium-Term Business Plan
	(Actions)	With an eye to meeting the energy-saving target, focusing efforts to ensure the improvement in the per-unit energy use through the setting, implementation and evaluation of themes for improvement
2) Energy use per unit of transport	Goal	Annual improvement of 1% and 4% improvement by the end of the New Medium-Term Business Plan
	(Actions)	With an eye to meeting the target for saving energy use for transport, focusing efforts to ensure the improvement of the per-unit energy use through the setting, implementation and evaluation of themes for improvement
(3) Reduction of greenhouse gas emissions	Goal	Annual reduction of 1% in CO_2 emissions and 4% reduction by the end of the New Medium-Term Business Plan: Complete elimination of fluorocarbon release from equipment using fluorocarbons
	(Actions)	Implementation of improvement measures linked to energy-saving activities for the achievement of the goals, and regular inspection/maintenance of equipment using fluorocarbons
(4) Waste		
1) Amount of final disposal at landfills	Goal	Annual reduction of 3% in the amount of final disposal at landfills and 12% reduction by the end of the New Medium-Term Business Plan
	(Actions)	With an eye to meeting the reduction target, focusing efforts to ensure the improvement in the per-unit waste generation through the setting, implementation and evaluation of themes for improvement
2) Zero emissions	Goal	Continuation of zero emissions
	(Actions)	Continuation of zero emissions at all worksites through reductions in the amount of final disposal at landfills and the amount transported
(5) Emissions of harmful substances to the atmosphere	Goal	Annual reduction of 12.5% from FY 2015 and 50% reduction by the end of the New Medium-Term Business Plan
	(Actions)	Planning and implementation of measures to reduce emissions of harmful substances
(6) Reduction of impacts upon biodiversity and ecosystems	Goal	Planning and implementation of activities aiming to reduce impacts upon biodiversity and ecosystems
	(Actions)	Contributing to the preservation of biodiversity by reducing environmental impact through environmental preservation activities; Promoting communication with related parties and striving to collaborate and cooperate to enhance biodiversity
3. Process safety and disaster prevention RC/BCP		
(1) Major accidents at facilities	Goal	No accidents
	(Actions)	Achieving zero major accidents at facilities; Reducing risks of major accidents at facilities in accordance with the BCP
(2) Maintenance and improvement of the business continuity plan (BCP)	Goal	Maintenance and improvement of the BCP using the PDCA cycle
	(Actions)	Improving the emergency operation center and implementing regular emergency drills to ensure preparedness for Tokyo metropolitan and sequential earthquakes
4. Occupational safety and health RC		
(1) Occupational accidents resulting in an absence from work or no absence	Goal	No accidents
	(Actions)	Reduction of risks through risk assessments; Increased efforts for preventing human error; Activation of safety initiatives (KY, pointing and vocalizing, mutually directing attention, identifying "hiyari-hat" (near miss) accidents, 5Ss, improvement activities, campaigns, etc.)
(2) Health promotion	Goal	5% reduction in the total number of absentee days including mental-health-related absence and 5% reduction in the number of incidents of personal injury or illness (averages for FY 2013–2015)
	(Actions)	Follow-up of periodic medical examination results; Mental health checks and their follow-ups; Health education
5. Distribution safety RC, quality assurance and consumer issues CSR		
(1) Distribution-related complaints	Goal	30% reduction from FY 2015, complete elimination by the end of the New Medium-Term Business Plan
	(Actions)	Identifying and reducing risks of distribution-related complaints through active involvement by Head Office Logistics and RC Departments; Identifying and reducing risks of distribution-related complaints through active involvement by worksites' Logistics and RC Departments
(2) Product-related complaints	Goal	30% reduction from FY 2015, complete elimination by the end of the New Medium-Term Business Plan
	(Actions)	Conducting company-wide quality risk assessments to reduce Rank A and B risks by 30% from the previous year; Increased efforts for the prevention of human error
(3) Consumer issues	Goal	Sharing information on issues
	(Actions)	Identifying products for consumers and confirming safety
6. Chemicals and product safety RC		
(1) Compliance with chemical-related laws and regulations	Goal	Zero violations
	(Actions)	Strengthening the management of chemical substances (for preparation of SDS and labels in and outside Japan) by adopting a new chemical substance control system; Conducting regular training programs on chemical substance control
7. Social dialogue RC, community involvement and development CSR, fair operating practices CSR, and compliance		
(1) Local gatherings and community involvement	Goal	Maintaining the current number of local gatherings and improving their contents
	(Actions)	Continuing to have dialogues with concerned local people and relevant organizations and improving their contents
(2) Legal and other requirements	Goal	Zero legal violations
	(Actions)	Preparing a list of relevant laws and regulations, checking compliance using the PDCA cycle, taking measures to prevent recurrence of deviations, and rolling out these measures to other similar cases
(3) Creation of more opportunities for stakeholder engagement	Goal	Once a year per worksite
	(Actions)	Creating more opportunities for stakeholder engagement; Incorporating results from stakeholder engagement activities to improve CSR and RC activities
8. Human rights CSR, labor practices CSR		
(1) Acceptance of diversity	Goal	Increased ratio of female, disabled, older and foreign employees
	(Actions)	Supporting diverse individuals playing active roles
(2) Creation of rewarding workplace that employees can be proud of	Goal	Understanding and improving levels of employee satisfaction with their workplace
	(Actions)	Promoting mutual communication in the office and improving human resource training

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

CSR Activity Policies (FY 2017)

1 Management system and organizational governance

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

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

2 Environmental protection

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

3 Process safety and disaster prevention/BCP

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

4 Occupational safety and health

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

5 Distribution safety, quality assurance and consumer issues

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

6 Chemicals and product safety

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

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

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

8 Human rights and labor practices

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

CSR Activity Policies and Evaluation Results for Medium Term (FY 2014–2016) and FY 2016

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

Item	Policies	Medium-Term CSR Plan (FY 2014–2016)			CSR Activities in FY 2016		
		Medium-Term Goals	Evaluation results		Goals for FY 2016	Evaluation results	
			Nippon Soda	Nisso Group		Nippon Soda	Nisso Group
1. Management system and organizational governance	In order to carry out sound and transparent corporate activities in compliance with laws and regulations, we will continuously implement the PDCA cycle of goal setting, improvement and periodic reviews based on RC Codes and RC ethics. We will conduct business activities in accordance with the seven principles of social responsibility in CSR: accountability, transparency, ethical behavior, respect for stakeholder interests, respect for the rule of law, respect for international norms of behavior, and respect for human rights. We will also conduct CSR and RC activities in our overseas operations.	(1) Proper implementation • As basic requirements, "education for personnel to increase their knowledge" is provided and "review of systems for improvement" is made on a regular basis. • Completion of the integration of CSR and RC management systems • Verification and improvement of the efficiency of internal audits and the RC audit review meeting • 30% reduction in total non-conformity cases	(1) ○ • Maintenance/renewal of OHSAS 18001, ISO 9001 and ISO 14001 • Rooting of CSR • Confirmation of audit efficacy at internal audit review meetings • 27% reduction in total non-conformity cases from the previous medium term	(1) ○ • Maintenance/renewal by companies that have acquired MS such as ISO • Rooting of CSR activities Organization of the Group Company Subcommittee under the CSR Promotion Subcommittee • CSR auditing by Nippon Soda • 50% reduction in total non-conformity cases	(1) Proper implementation (i) As basic requirements, "education for personnel to increase their knowledge" is provided and "review of systems for improvement" is made on a regular basis. (ii) Completion of the integration of CSR and RC management systems (iii) Verification and improvement of the efficiency of internal audits and the RC audit review meeting (iv) 30% reduction in total non-conformity cases	(1) ○ Maintenance/renewal of OHSAS 18001, ISO 9001 and ISO 14001 (i) ◎ Revision of standard documents; periodic implementation of education/training (ii) ◎ Completion of rooting of the CSR management system (iii) ◎ Implementation as scheduled at each worksite: Verification of the efficacy at audit review meetings (iv) × 12% reduction (from the previous year)	(1) (i) ◎ Maintenance/renewal of the management system of each company (ii) ◎ Organization of the Group Company Subcommittee under the CSR Promotion Subcommittee (iii) ○ Implemented while implementing CSR activities at each group company; CSR auditing by Nippon Soda (iv) ○ 26% reduction
2. Environmental protection	We will make efforts to save energy and resources, reduce and recycle waste, and reduce emissions of harmful substances, with the goal of minimizing the environmental impact of our business activities.	(1) Environmental abnormalities Zero events (2) Energy (i) Energy use per unit of production ≤ 0.3415 kL/t Annual average improvement of 1% (ii) Energy use per unit of transport ≤ 0.0249 kL/million yen Annual average improvement of 1% (3) Waste (i) Amount of final disposal as landfill ≤ 392 tons 3% reduction from the previous medium term (ii) Zero emissions Continuation of zero emissions and 0.5% improvement from the previous medium term (4) Emissions of harmful substances to the atmosphere ≤ 11.1 tons 5% reduction from the previous medium term	(1) ◎ Major deviation: 0 × Minor deviation: 9 (2) (i) × 0.347 kL/t 1.42% improvement (ii) ◎ 0.0190 kL/t 23.7% improvement (3) (i) ◎ 235 tons (ii) ◎ 3.3% (4) ◎ 8.9 tons 23.7% reduction	(1) ◎ Major deviation: 0 × Minor deviation: 48 (2) (i) ◎ 0.194 kL/t 9.8% improvement	(1) Environmental abnormalities (legal violations) Zero events (2) Energy (i) Energy use per unit of production 1% reduction from the previous year (≤ 0.3485 kL/t) (ii) Energy use per unit of transport 1% reduction from the previous year (FY 2015) (≤ 0.0207 kL/million yen) (3) Waste (i) Amount of final disposal as landfill 3% reduction from the previous medium term (≤ 392 tons) (ii) Zero emissions Continuation of zero emissions and 0.5% reduction from the previous medium term (≤ 3.3%: 0.17% for a single year) (4) 5% reduction in emissions of harmful substances to the atmosphere from the previous medium term (≤ 11.1 tons)	(1) ◎ Major deviation: 0 × Minor deviation: 4 (exceeding the effluent standards: 1 in Nihongi, 2 in Takaoka, and 1 in Chiba) (2) (i) × 0.347 kL/t (0.57% reduction from the previous year) (ii) ◎ 0.0190 kL/million yen (9.5% reduction from the previous year) (3) (i) ◎ 235 tons (42% reduction from the previous medium term) (ii) ◎ 3.3% (5% reduction from the previous medium term) (4) ◎ 8.9 tons (23.7% reduction from the previous medium term)	(1) ◎ Major deviation: 0 × Minor deviation: 1 (recording error of effluent analyzing system at Nisso Fine) (2) (i) ◎ 0.194 kL/t (1% reduction from the previous year)
3. Process safety & disaster prevention/BCP	We will prevent major accidents at our facilities and promote safe and stable production. We will establish a business continuity plan (BCP) and drive continuous improvement.	(1) Zero major accidents at facilities (2) Maintenance and improvement of the business continuity plan (BCP) Maintenance and improvement of the BCP using the PDCA cycle	(1) × 2 cases (2) ◎ Revised every year	(1) × 7 cases (2) ◎ Introduced at each group company	(1) Zero major accidents at facilities (2) Maintenance and improvement of the business continuity plan (BCP)	(1) × Gas explosion at a clean bench facility at Haibara FRC of Odawara Research Center on June 25 (2) ◎ Distribution of the 5th edition on April 1, 2015 Organization of the emergency operation center and implementing emergency drills Implementing drills to confirm safety status	(1) × Fire at Isohara Plant of Nisso Fine on March 15 (2) ◎ Introduction at each company
4. Occupational safety & health	We will create an accident-free working environment in order to provide a healthy and happy working experience.	(1) Occupational accidents resulting in an absence from work or no absence: No accidents (2) Health promotion 5% reduction in the total number of absentee days, excluding mental-health-related absence, and 5% reduction in the incidence of personal injury and illness, from the previous medium term	(1) × Not achieved (2) ◎ 25% improvement in number of days; 17% improvement in incidence	(1) × Not achieved	(1) Achievement of zero accidents (absence from work/no absence) (2) 5% reduction in the total number of absentee days due to personal injury and illness and the incidence of personal injury and illness from the previous medium term (excluding mental-health-related absences) (≤ 1230 total absentee days, ≤ 30 incidents of personal injury or illness)	(1) × Employees: 1 case involving absence from work Employees: 8 cases involving no absence Affiliate company employees: Zero cases involving absence from work Affiliate company employees: 1 case involving no absence (2) ◎ Total number of days of absence (excluding mental-health-related absence): 917 days; 25 incidents	(1) × Employees: 1 case involving death Employees: 5 cases involving absence from work Employees: 8 cases involving no absence Affiliate company employees: 3 cases involving absence from work Affiliate company employees: 5 cases involving no absence (8 group companies) (2) ○ Total number of days of absence: 1361 days in FY 2015 → 1261 days in FY 2016 Incidents: 17 in FY 2015 → 21 in FY 2016
5. Distribution safety, quality assurance and consumer issues	We will prevent distribution accidents by minimizing hazards, harm and risks of in-transit accidents associated with the transportation and distribution of our products. We will increase customer satisfaction.	(1) Distribution-related complaints 30% reduction from the previous year, complete elimination by the end of the New Medium-Term Business Plan (2) Product-related complaints 30% reduction from the previous year, complete elimination by the end of the New Medium-Term Business Plan (3) Consumer issues Sharing information on issues	(1) × 50% reduction (2) × 48% reduction (3) ◎ Efforts for products for consumers	(1) × 92% reduction (3 manufacturing companies) (2) × 38% reduction (3 manufacturing companies)	(1) Distribution-related complaints 30% reduction from the previous year (≤ 3 cases) (2) Product-related complaints 30% reduction from the previous year (≤ 9 cases) (3) Consumer issues Sharing information on issues	(1) × 5 cases (2) ◎ 14 cases (3) ○ Consideration of improvement of packing materials for agricultural chemicals	(1) ◎ 3 cases (Target: ≤ 4) (3 manufacturing companies) (2) × 23 cases (Target: ≤ 9) (3 manufacturing companies)
6. Chemicals & product safety	We will increase the confidence and trust of customers and the general public in us by taking into account possible hazards and harm that chemicals and products may have to safety, health and the environment, and we will comply with domestic laws and regulations, international standards, treaties and the like, as well as other regulations that are publicly demanded.	(1) Compliance with chemical-related laws and regulations: Zero violations	(1) △ Zero violations since FY 2015	(1) ◎ Zero violations	(1) Zero violations of chemical-related laws and regulations (i) Strengthening the management of chemical substances (poisonous and deleterious substances, new chemicals, etc.) by adopting a new chemical substance control system (ii) Improving regular training programs on chemical substance control (poisonous and deleterious substances, new chemical substances, etc.)	(1) ◎ Zero violations (i) ◎ Completion of switching to the new chemical substance control system for SDS and YC management, which is now operating smoothly (ii) ◎ Periodic education conducted according to the plan	(1) ◎ Zero violations
7. Social dialogue, community involvement and development, fair operating practices, and compliance	We will make efforts to improve the general public's confidence in us by participating in various environmental protection and safety activities and proactively engaging in dialogue with stakeholders regarding the effects of chemical substances on safety, health and the environment. We will comply with legal requirements to improve transparency.	(1) Local gatherings and community involvement 30% increase from the previous medium term (2) Legal and other requirements Zero legal violations (3) Creation of more opportunities for stakeholder engagement Once a year per worksite on average	(1) ◎ Achieved (2) × Deviations detected Exceeding the effluent standards Notification of a need for improvement by the Labor Standards Inspection Office (3) ◎ Achieved	(1) ◎ Achieved (2) × Deviations detected Notification of a need for improvement of the environment Notification of a need for improvement by the Labor Standards Inspection Office (3) ◎ Achieved	(1) Local gatherings and other meetings from the previous medium term 30% increase (≥ 23 times/year) (2) Legal and other requirements Zero legal violations (3) Creation of more opportunities for stakeholder engagement Once a year per worksite (≥ 6 times)	(1) ◎ Local gatherings: 47 cases (2) × Exceeding the effluent standards: 4 cases Notification of a need for improvement by the Labor Standards Inspection Office: 5 cases	(1) ◎ Local gatherings: 76 cases (13.7 cases/year in the previous medium term) (2) × Recording error of effluent analyzing system: 1 case Notification of a need for improvement by the Labor Standards Inspection Office: 17 cases
8. Human rights/ Labor practices	We will respect human rights and act in recognition of both their importance and their universality. We will act based on the understanding that socially responsible labor practices are indispensable to social justice and peace, and influence respect for the rule of law and a sense of fairness that exists in society.	(1) Utilization of diverse human resources Increased ratio of female, disabled, and older employees (2) Rewarding workplace that employees can be proud of Understanding and improving levels of employee satisfaction with their workplace	(1) ○ Achieved Reemployment System Interview surveys conducted to identify issues that need to be addressed to increase the ratio of female employees (2) ○ Achieved Addressed issues revealed by the ES survey results	(1) ○ Reviewed and implemented while implementing CSR activities at each group company	(1) Workforce diversity 1) Increased ratio of female, disabled, older and foreign national employees (i) Identification of issues associated with the increased employment ratio (ii) Planning, development and implementation of measures for the above effort (2) Rewarding workplace that employees can be proud of 1) Understanding and improvement of employees' satisfaction levels with their workplace (i) Organization of issues and measures identified in the ES survey results (ii) Implementation of measures	(1) ○ • Summarization of results of employee interview surveys conducted about employment of female employees • Revision of the shorter work-hours system • Line chief training, diversity training • Employment of a foreign national (one person) (2) ○ • Progress of measures to strengthen the organization summarized at a Management Council meeting • ES survey implementation plan for FY 2017	(1) ○ Reviewed and implemented while implementing CSR activities at each group company

For measures taken to address violations of laws and regulations, please see page 92.

Organizational Governance and Management System

The Nippon Soda Group has an established management and organizational governance system to effectively promote CSR and RC activities.

Management approach

The Nippon Soda Group's CSR management system, which integrates CSR organizational governance and the responsible care management system, is based on the PDCA cycle. In order to ensure continuous improvement, worksites are required to implement and practice the PDCA cycle as follows: develop a CSR improvement plan (Plan), implement the developed plan (Do), make quantitative evaluations of both the plan and its implementation (Check), and implement measures based on quantitative evaluation results (Act).

Nippon Soda Group's corporate governance

Basic concept

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

Basic principles of corporate governance

Nippon Soda is fully aware of its fiduciary duty and is committed to improving its corporate governance system to meet this fiduciary duty in line with corporate governance codes and according to the following five basic principles:

1. Ensure equality among shareholders and provide an environment for the appropriate exercising of rights
2. Ensure appropriate collaboration with stakeholders (customers, business partners, employees, local communities, etc.) other than shareholders
3. Ensure appropriate disclosure of information as required by law and ensure transparency through proactive disclosure of information that is not required by law
4. Fulfill the responsibilities and roles of the Board of Directors to make decisions in a transparent, fair and prompt manner, based on our fiduciary duty
5. Help shareholders understand our management policy and promote constructive dialogue to achieve sustainable growth

For details of the state of the governance system, please refer to the securities report.

Corporate governance system

Outline of the corporate governance system

Nippon Soda has a Board of Corporate Auditors. Our corporate governance system comprises the Board of Directors consisting of six directors and two outside directors, and the Board of Auditors consisting of four auditors, three of which are outside auditors. Basic decision-making on business management and supervision of business execution are discussed intensively at the Board of Directors Meeting, generally held once a month, with the aim of promoting agile and efficient management. The tenure of directors is one year so as to ensure a prompt response to any change in the external environment and to clarify managerial responsibility. The position of executive officer has been introduced to improve decision-making on and supervision of business management and to enhance business execution performance. In adopting this system, we revised our bylaws to decrease the maximum number of directors from 15 to 10 or less. Of 17 executive officers, six who concurrently hold the position of director hold a Management Council meeting generally once a week (also attended by auditors) to discuss important issues involving business execution that need to be addressed quickly. In addition, an executive officer meeting attended mainly by executive officers is held once a month to share information on the current state of business execution performance and other issues.

The internal control system

1. Our Compliance Committee ensures corporate activities are undertaken in compliance with laws, regulations and corporate ethics by ensuring all employees are fully informed of the Nippon Soda Group Code of Conduct. We also use the internal reporting system appropriately.
2. We promote CSR (corporate social responsibility) practices in order to maintain the trust of society needed to continue our business activities.

Regulations on the risk management of losses and other systems

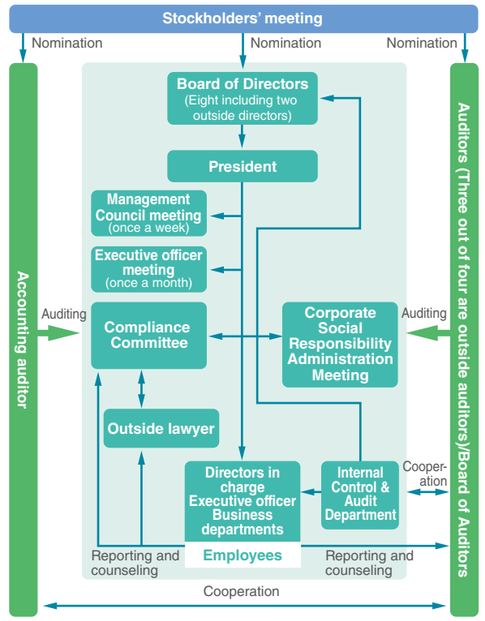
1. We ensure corporate activities in compliance with laws, regulations and corporate ethics by ensuring all employees are fully informed of the Nippon Soda Group Code of Conduct.
2. Under the Corporate Social Responsibility Administration Meeting chaired by the President, we promote business activities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

The risk management system

Compliance

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

Corporate governance system and Corporate Social Responsibility Administration Meeting



CSR activities

Nippon Soda's basic policy is to contribute to society through its business activities by effectively using the technologies, knowledge and human resources accumulated since its foundation. Based on this basic policy, we engage in CSR practices in order to maintain the trust of society we need to continue our business activities. At every stage of the product life cycle, from manufacturing to disposal, we promote responsible care (RC) activities in order to conduct business activities that take into account environmental protection, occupational safety, and product safety.

CSR management system

The management system that promotes the CSR activities of the Nippon Soda Group is designed to "spiral up" the PDCA cycle[1].

Each worksite is required to develop a CSR improvement plan (Plan), implement the developed plan (Do), make quantitative evaluations of both the plan and its implementation (Check), and implement measures based on quantitative evaluation results (Act) in order to ensure continuous improvement.

Plan

❶ Policy:
CSR-related policies consist of seven core subjects and RC-related policies consist of seven RC Codes. Activity items corresponding to the core subjects and RC Codes are integrated to determine eight policies, which are reviewed every year. (Refer to page 26.)

❷ Risk assessment and issue identification:
In RC activities, risk assessment is conducted: Risks for each of six RC Codes (excluding management system) are identified and reduced to the permissible level. In CSR activities, issues for each of the core subjects are identified and addressed. The identification and improvement activities are implemented every year in accordance with the PDCA cycle.

❸ Legal and other requirements:
The basic principles of CSR and RC are "to do what is ethically right." Recognizing that the law is the lowest ethical standard, we proactively comply with laws and other requirements but aim for a higher voluntary standard. Related activities are implemented every year in accordance with the PDCA cycle.

❹ Target:
Based on issues identified in the "risk assessment and issue identification" stage and on "legal and other requirements" for which improvement is needed, targets are determined in accordance with the policy. Target setting is performed every year in accordance with the PDCA cycle.

❺ Plan:
Specific plans to achieve determined goals are developed by each business site, department and unit every year in accordance with the PDCA cycle.

Do

❶ System development:
The CSR/RC promotion system as shown on page 24 is in operation. Working Group meetings are held monthly and Promotion Subcommittee meetings and Administration meetings are held twice a year.

❷ Education/training:
Both CSR and RC activities are performed by employees and other involved parties. Each business site provides the relevant individuals with education and training on a regular basis in order to not only ensure compliance with laws and other requirements but to also achieve goals and to prevent latent risks at worksites from developing into occupational accidents, environmental abnormalities and/or quality problems.

❸ Communication and stakeholder engagement:
Details of activities are published in the CSR and other reports. We seek third-party opinions on our CSR and RC activities, which are then incorporated into the activities.

❹ Documentation and document management:
The Head Office and each business site document specific standards and procedures for CSR and RC activities and manage these documents.

❺ Operational management:
Standards necessary to implement CSR and RC plans appropriately are established.

❻ Emergency response:
An emergency response system and procedures are predetermined for earthquakes and other natural disasters, fires, explosions, accidents and occupational accidents. Emergency drills are conducted regularly. A business continuity plan (BCP) is developed and reviewed every year.

Check

❶ Inspection/monitoring:
There are procedures for constantly inspecting and monitoring the actual performance of RC activities, such as the progress of the plan, target achievement levels, the progress of daily activities and the status regarding accidents, disasters and failures.

❷ Corrective and preventive measures:
In the event that an occupational accident, accident, environmental abnormality, quality problem, or other instance of non-compliance or deviation occurs, or is likely to occur, the cause is identified and necessary measures taken. Measures to prevent recurrence are also taken and these measures are rolled out to other similar cases.

❸ Information collection and record management:
Information on risks, legal and other requirements, and instances of non-compliance and deviation that affect the Nippon Soda Group is collected. Records relevant to maintaining safety are managed appropriately.

❹ Audits:
The implementation of CSR and RC activities is periodically audited.

Act

❶ Review by management:
Management reviews the entirety of CSR and RC activities twice a year.

Plan-Do-Check-Act cycle

1 The PDCA (plan–do–check–act) cycle is a management method used to facilitate management activities, such as RC activities, production control and quality control, in business activities such as manufacturing. It was advocated by Walter A. Shewhart and W. Edwards Deming after World War II.

CSR audit

Internal audit

❶ CSR Audit, Verification and Review Meeting
Internal audits performed at each site of Nippon Soda, including QMS, EMS and OSHMS, are collectively referred to as the CSR audit. A representative from each site and staff in charge at the Head Office convene once a year to hold a CSR Audit, Verification and Review Meeting to investigate and verify whether the CSR audit is conducted appropriately, whether the level of audit quality is appropriate, and other relevant issues. In FY 2016, the meeting was held at the Head Office of Nippon Soda on December 15, 2015.

CSR Audit, Verification and Review Meeting on December 15, 2015

❷ CSR audit at worksites (plants and research centers)
Internal audits independently performed by Nippon Soda's worksites (plants and research centers) are referred to as the CSR audit and the results of internal audits are reviewed at each worksite's Corporate Social Responsibility Administration Meeting.

❸ CSR audit at Group companies
Nippon Soda's audit team conducts regular (biennial) audits of environmental protection, safety and health, quality assurance, human rights/labor practices, and other CSR practices. In FY 2016, CSR audits were performed at the following sites: Aizu Plant of Nisso Metallochemical Co., Ltd. (September 11, 2015), Onahama Plant of Nisso Fine Co., Ltd. (July 29, 2015), Isohara Plant of Nisso Fine Co., Ltd. (July 30, 2015), Takasaki Plant and Gunma Plant of Shinfuji Kaseiyaku Co., Ltd. (August 6, 2015), and all of the 13 sites of Sanwa Soko Co., Ltd. and Sanso Unyu Co., Ltd. (October 22 to December 24, 2015).

External audit

All worksites (plants and research centers) and manufacturing group companies undergo external reviews according to ISO 14001, ISO 9001 and OHSAS 18001 and diagnosis of disaster prevention capability with emphasis on disaster prevention and occupational safety by an institute specializing in disaster prevention. Based on their results, ongoing improvement efforts are made. We are always ready to receive audits by customers, who are our stakeholders, and make improvements in response to their feedback. We also undergo other external audits on an as-needed basis.

Special audits

In the event of a serious non-conformity or other serious problem, we conduct a special audit, if necessary, under an audit system that can accommodate the situation.

Audits and reviews conducted

Audits and reviews carried out at the Nippon Soda Group for fiscal 2016 (number of times)

Sites	Internal	External	
		Received	Conducted
Head Office	8	0	40
Nihongi Plant	17	34	5
Takaoka Plant	4	11	11
Mizushima Plant	5	7	1
Chiba Plant	9	3	12
Odawara Research Center	1	3	1
Chiba Research Center	16	1	0
Domestic manufacturing group companies (3)	26	36	1
Total	86	95	71

CSR audit at Aizu Plant of Nisso Metallochemical Co., Ltd. on September 11, 2015

CSR audit at Saitama Office of Sanso Unyu Co., Ltd. on October 23, 2015

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

Management approach

Basic concept

Nippon Soda respects individual human rights, recognizes the importance and universality of individual human rights, understands and appreciates diversity among cultures, customs and values, and prohibits the practice of any discriminatory activities.

Nippon Soda respects the unique characteristics of individual employees and consistently takes proactive measures to maintain and improve working conditions by developing and reviewing personnel and employment systems to ensure a work environment where employees can feel comfortable and fulfilled.

CSR activities to protect the corporate value
POINT

① Acceptance of diversity
② Rewarding workplace that employees can be proud of

Summary of efforts in fiscal 2016

The priority goals in fiscal 2016 were “promotion of diversity” and “improvement in employee satisfaction with the workplace.”

We promoted the employment and promotion of women, older workers, and disabled candidates, partly in accordance with the objective of the Act on Promotion of Women’s Participation and Advancement in the Workplace enforced in April 2016. We also improved the work environment and HR systems to encourage a wide variety of employees to actively and willingly engage in their job. To raise awareness and acceptance of diversity, we provided members of the executive team with training on diversity awareness and line managers with management training.

An employee satisfaction (ES) survey was conducted for the first time in fiscal 2014 to help us understand actual worksite situations. In fiscal 2016, we implemented specific solutions to issues identified in the first ES survey to improve employee satisfaction.

Respect for human rights

Nippon Soda’s management philosophy describes our desire to contribute to social development through “chemistry” and, in doing so, to comply with laws and regulations while promoting sound and transparent business practices. As a matter of course, we place the utmost emphasis on respecting and advocating human rights. The Nippon Soda Group Code of Conduct contains a statement on our commitment to stand up for human rights and prohibit discrimination, declaring our respect for the uniqueness and individuality of each employee as well as our pledge to provide a range of personnel and employment systems to suit different employees and to offer working conditions that give rise to comfortable and fulfilling workplaces.

In fiscal 2016, we received no complaints or other reports about discrimination or the infringement of human rights.

Measures against harassment

Nippon Soda’s employment regulations prohibit any kind of harassment, including sexual harassment and workplace bullying. All employees are required to be fully informed of the company’s policy against harassment. We also provide rank-based training in order to ensure the prevention of harassment at the workplace.

We also have developed a system under which a harassment complaint office is established at each business site, usually by the personnel department. All cases of harassment reported are addressed confidentially, with the human rights of all involved duly taken into consideration.

Implementation of an employee satisfaction (ES) survey

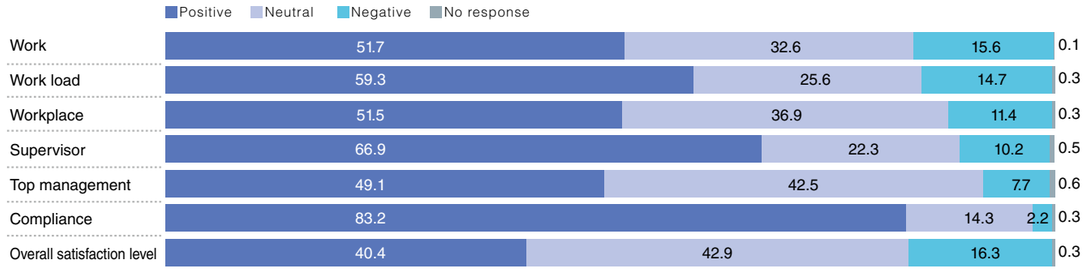
We introduced an employee satisfaction (ES) survey in fiscal 2014 (for all employees including seconded staff) in order to create rewarding workplaces that all Nippon Soda employees can be proud of.

The objective of the survey is to help us understand how employees feel about working for the company and the specific conditions of their workplaces, and to identify issues that need to be addressed in order to create environments where they can work happily and productively. Identified issues are addressed by implementing appropriate measures so as to increase our employees’ job satisfaction.

We conducted the first ES survey in FY 2014 and took actions based on its results in FY 2015 and 2016. Not satisfied with simply having conducted the survey, we analyzed the results to identify the tendencies and actual situation of each office throughout the company from the perspective of “what issues we need to address in order to improve employees’ satisfaction with their workplace,” and implemented company-wide actions to address identified issues throughout the year.

At the end of the fiscal year, we assessed the progress of the actions implemented throughout the company. As a result, it was confirmed that the desired goals were mostly achieved. We have therefore decided to conduct another ES survey for the next fiscal year and assess the results of actions implemented and the change in the awareness level of employees. This cycle will be continued with the aim of creating a workplace where employees are motivated and exhibit positive attitudes toward their jobs.

Results by category of the first employee satisfaction survey



Conducted in September 2013
Surveyed employees 1,531 employees Respondents 1,451 employees Response rate 94.8% (Employees of Nippon Soda)

Personnel system and human development

Nippon Soda’s personnel system is more than a mere management tool. Rather, through the linkage and association of different systems it is designed to help employees achieve professional development while at the same time properly rewarding them for their achievements so as to promote greater job satisfaction.

In fiscal 2012, we carried out a large-scale reform of the personnel system under the basic principle of “improving transparency to promote greater understanding.” The reform covered a wide range of issues, such as job categories and grades, salaries, bonuses, promotion, appraisal and benefit packages.

One of the important missions of any company is to help promote the personal development of its employees. All the subsystems that make up the personnel system as a whole should therefore be designed with this goal in mind. While providing equal opportunities for all employees to receive in-house training, we work to establish a system that fully supports those who are willing to learn and grow.

In addition to on-the-job training, our educational and training programs include rank-based training, manager training, early- and intermediate-phase practical training, and specialized training by job function. We also provide training for self-development, including programs to improve language proficiency and acquire qualifications, as well as many other various kinds of training programs.

We place a particular emphasis on providing employees with mental health education, which has recently become increasingly important. We offer programs to help employees understand the importance of maintaining and managing their physical and mental health as a member of society, and teach them how. There are also programs for managers to acquire the knowledge and skills needed to provide their subordinates with mental health care.

Acceptance of diversity

In recruiting our employees, we provide opportunities to as diverse a range of candidates as possible, that is, we do not discriminate on the basis of nationality, gender or belief. Furthermore, many positions have no prerequisite academic qualifications and we accept mid-career hires from outside the company throughout the year.

We are also ready to employ both older workers and people with disabilities, upon whom other companies have tended to place restrictions.

In April 2016, the Act on Promotion of Women's Participation and Advancement in the Workplace was enforced. In FY 2016, partly in accordance with the objective of this Act, we took steps to promote the employment of women. We reviewed our system for helping female employees maintain a balance between their work and events/obligations in their personal life, such as childbirth, child care and caring for other family members, and identified issues that need to be addressed so that we can improve the system. To raise awareness and acceptance of diversity, we provided members of the executive team with training on diversity awareness and line managers with management training. Through these efforts, we facilitated the creation of a corporate culture and work environment where individuals with different backgrounds and characteristics are accepting of the views and lifestyles of others and all employees can realize their full potential.

Employee's comment

Yoshiyuki Kobayashi
Overseas Registration Section
Regulatory Affairs Department
Agro Products Division

I am in charge of overseas registration and renewal of registration for agrochemicals at the Regulatory Affairs Department of the Agro Products Division. Being attracted by the high level of Nippon Soda's capabilities to develop products, I joined the company in February 2015 after working as a researcher at a pharmaceutical company. Nippon Soda is active in hiring mid-career people and the proportions of mid-career employees and female employees are both high at the Regulatory Affairs Department. In addition, there are no hierarchical barriers between new graduates and mid-career employees. This is a workplace where we can work in comfort. I have frequent opportunities to work with those from Nippon Soda's research centers and affiliated companies and research institutions in Japan and abroad. Through these experiences, I can feel connected to other people, which makes my everyday life fulfilling.

Improvement of work-life balance

Productive work is predicated on a healthy state of both mind and body. Nippon Soda has long focused efforts on reducing normal working hours and increasing the number of holidays.

Although the volume of work increases every year, overtime and leaves of absence are carefully monitored to prevent employees from working overly long hours and ensure that they take sufficient breaks.

People perform better when they are able to strike a good balance between work and family duties. Child rearing and elderly care are two major challenges faced by many working people. For those who need it, we provide support and aid to enable them to fulfill their family responsibilities with ease.

A certain number of our employees take child care leave or family care leave every fiscal year.

Total annual working hours per employee (fiscal 2015)

Normal working hours (hours)	Early start and overtime hours (hours)	Holiday overtime hours (hours)
1832.5	123.1	9.0

Paid annual leave days taken (days)	Various kinds of leave days taken (days)	Total annual working hours per person (hours)
15.0	1.8	1748.2

Change in the number of employees who took child/family care leave (Employees of Nippon Soda)

FY	Those who took child care leave (person)		Those who took family care leave (person)	
	Women	Men	Women	Men
2012	2	0	0	1
2013	6	0	0	0
2014	6	1	0	0
2015	6	0	0	0
2016	2	1	0	0

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

FY	Employees who took maternity/child care leave (employee)		Rate of employees returning to work (%)		Rate of employees remaining with the company (%)	
	Women	Men	Women	Men	Women	Men
2012	4 (136)	0 (1,128)	100	—	83.3	—
2013	4 (136)	0 (1,154)	100	—	100	—
2014	7 (134)	1 (1,151)	100	100	50	—
2015	5 (137)	0 (1,144)	100	—	83.3	—
2016	2 (142)	1 (1,137)	100	100	100	100

The numbers were counted at the first fiscal year of the leave. The numbers in brackets are the total numbers of men and women respectively at the end of each fiscal year.

The percentages of employees remaining with the company in each fiscal year are those who remained with the company for three years after returning to work.

Labor-management relations and improvement of working conditions

Basic working conditions are determined by labor agreements concluded between the company and the labor union and renewed every year. To maintain cooperative labor-management relations, we hold labor-management council meetings and, in addition, create opportunities for constructive opinion exchange on various day-to-day issues under the motto of "dialogue rather than negotiation." Through these efforts, we improve working conditions in a rational way.

Labor union members (the rate of labor union members)

FY	The number of labor union members (people)	Average age (years)	Average length of service (years)	Rate of members (%)
2012	855	42.0	21.2	67.4
2013	863	41.6	20.7	66.9
2014	856	40.9	19.9	65.5
2015	845	40.6	19.3	65.0
2016	844	40.4	18.9	64.8

Measures to maintain health

While a person's health largely depends on his or her individual lifestyle, Nippon Soda is actively involved in maintaining and promoting the health of its employees.

Each office implements its own efforts. One of such efforts is the "*Kenko-ryoku Up Dai-sakusen*" (Health Promotion Campaign). In this campaign, all employees set their own health improvement targets for two months and report their achievements. Their targets range widely from "quitting smoking" to "losing 2 kg" and "walking 10,000 steps a day." Apart from the intrinsic satisfaction of achieving their targets, many employees also enjoy the challenge of the campaign partly because they receive prizes according to their achievement level.

VOICE

Human Rights/Labor Practices Working Group Member

Akemi Ohsawa
Intellectual Property Department
Research & Development Division

The Human Rights/Labor Practices Working Group has discussed issues in preparation for promoting the employment of women and foreign nationals and embracing a diverse range of working conditions. At present, some worksites offer a relatively comfortable work environment for a diverse workforce but some do not and need to make more efforts. It is expected that there will be an increasing number of employees who have to limit their working hours not only due to child care but also in order to care for a family member. I would encourage employees to help each other by taking advantage of each other's strengths so that we can all contribute to creating a workplace where everyone can improve their creativity and productivity.

Environmental Protection

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

Management approach

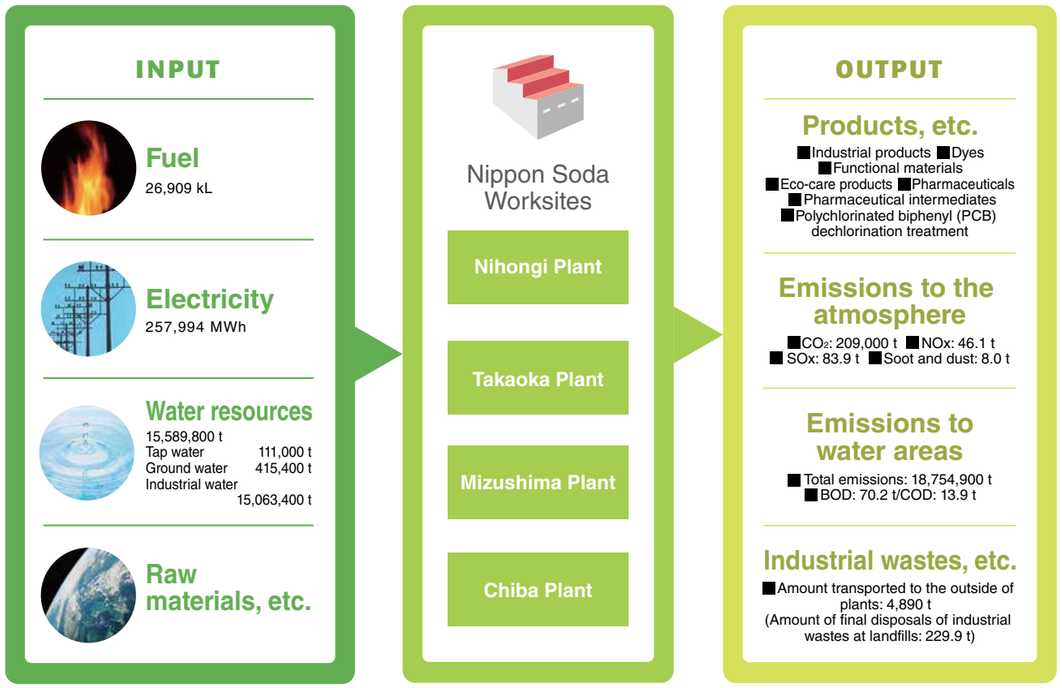
It is our responsibility to protect the global environment and contribute to the sustainable development of society. The Nippon Soda Group will continue its efforts not only in preventing environmental pollution and complying with laws and regulations but also in reducing environmental impacts associated with its business activities (prevention of global warming, reduction in waste generation and the amount of final disposal of waste in landfills) and developing products and processes with less environmental impact.

CSR activities to protect the corporate value
POINT

1. Promotion of active energy saving
2. Reduction of environmental impacts
3. Promotion of 3Rs
4. Promotion of zero emissions
5. Reduction of CO_2 emissions
6. Reduction of impacts on biodiversity and ecosystems

Major environmental impacts

The environment impacts of Nippon Soda's four major plants in Japan in FY 2016 are shown in the figure below:



Environmental Management Systems (EMS)

Nippon Soda has introduced an environmental management system at all plants and one research center.

Energy saving

Reduction of energy consumption and carbon dioxide emissions

Nippon Soda promotes efforts to reduce greenhouse gases. The efficiency of our soda electrolysis technology in particular is ranked among the highest in the world. Furthermore, we place the utmost emphasis on reducing our energy consumption, saving resources and recycling.

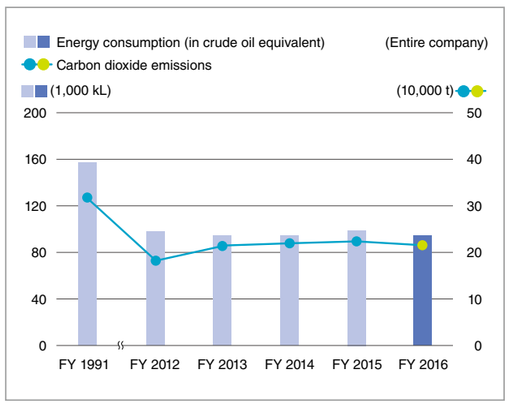
Nippon Soda was recognized on the website of the Agency for Natural Resources and Energy of the Ministry of Economy, Trade and Industry as a company that met the energy benchmark for the soda chemicals sector for FY 2015.

(This benchmarking system is used to compare energy saving efforts among companies in a specified sector and assess the progress of each company's efforts.)

Figure 1 shows the change in Nippon Soda's energy consumption and CO_2 emissions.

During the period from 1990, the base year of the Kyoto Protocol, to last year, Nippon Soda not only improved the energy efficiency of its energy-intensive products (typically represented by electrolysis products), but also added higher functionality and more value to its products. As a result, energy consumption in terms of crude oil equivalent was reduced by 40.0% and CO_2 emissions were cut by 32.9% from FY 1991 levels.

[Figure 1] Changes in energy consumption and CO_2 emissions



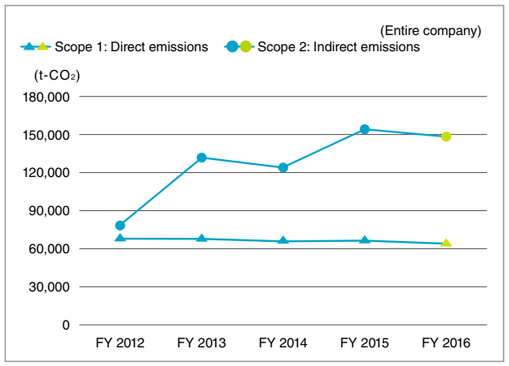
*In FY 2010 and later years, the amounts of consumption at Head Office, branches and other offices were included. The data collection area at Chiba Plant was changed.

In comparison with the previous year, the energy consumption in crude oil equivalent was cut by 5.1% and CO_2 emissions were also reduced by 4.0%. The major cause for the reduction is the implementation of our energy reduction plan and the decreased production.

Figure 2 shows changes in greenhouse gas (GHG) emissions arising directly from the combustion of fuels (gasoline, kerosene, light oil, heavy oil A, heavy oil B and C, LPG, and liquefied natural gas) at worksites (Scope 1: direct emissions) and GHG emissions arising out of the use of electricity and heat supplied by external sources (Scope 2: indirect emissions).

The volume of GHG emissions from the use of electricity has been adjusted.

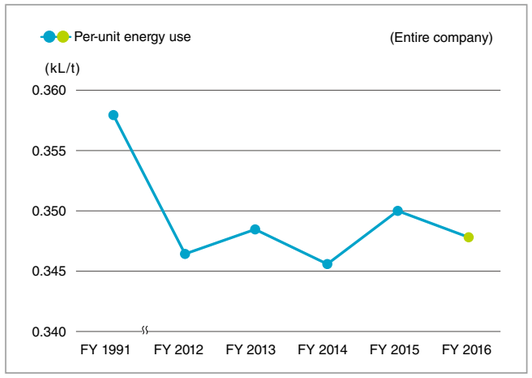
[Figure 2] Changes in GHG emissions for Scope 1 and Scope 2



Improvement of the energy use per unit of production

In order to accurately assess the amount of energy saved in the manufacturing process, Nippon Soda uses a measurement called the "per-unit energy use," which is the energy required to produce one ton of products. Figure 3 shows changes in the per-unit energy use.

[Figure 3] The energy use per unit of production

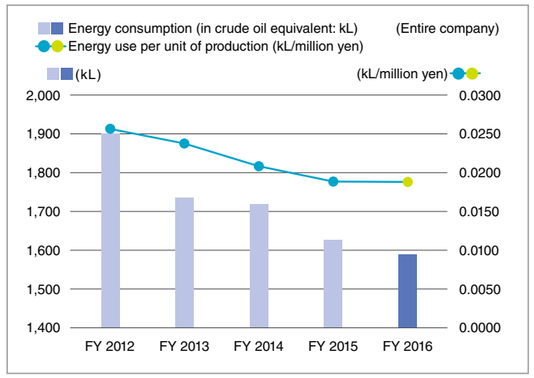


Promotion of energy saving by the Logistics Department

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

Figure 4 shows changes in energy consumption (in crude oil equivalent: kL) related to transportation and energy use per unit of production (kL/sales [million yen]).

[Figure 4] Changes in energy consumption related to transportation and energy use per unit of production



We were certified in 2013 as an “Eco Rail Mark” company for our modal shift efforts.

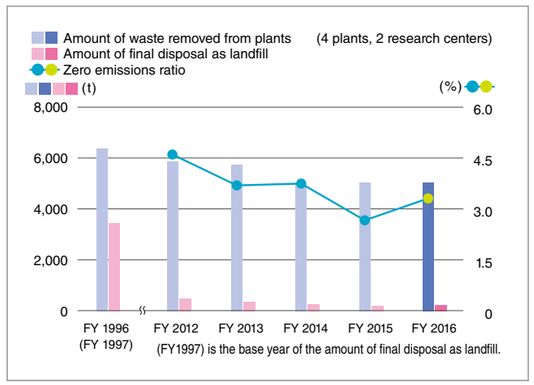
Waste reduction

Nippon Soda has been making efforts to reduce industrial waste.

Reduction of the amount of final disposal as landfill

As one of its efforts to help build a recycling-based society, the Nippon Soda Group reduces industrial waste emissions themselves and, at the same time, promotes the recycling of waste items and implements other measures to reduce the amount of final disposal of waste going to landfill. Changes in the amount of transported industrial waste and the amount of final disposal as landfill are shown in Figure 5. In fiscal 2016, in comparison with the base year (fiscal 1996 for the amount of transported industrial waste and fiscal 1997 for the amount of final disposal as landfill), the amount of transported waste decreased by 22.8% and the amount going to landfill decreased by 93.3%.

[Figure 5] Changes in the amount of transported industrial waste and the amount of final disposal as landfill



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

Zero emissions

Nippon Soda promotes “zero emissions,” defined as the state wherein the amount of waste disposed finally as landfill is 5% or less of the total amount of transported waste.

The change in the zero emissions ratio, or the ratio of the amount of final disposal as landfill to the amount of transported waste, is shown in Figure 5.

Nippon Soda has achieved the zero emissions goal.

PCB waste

PCBs (polychlorinated biphenyls) contained in condensers and transformers are required to be properly stored and detoxified in accordance with the Act on Special Measures concerning Promotion of Proper Treatment of PCB Waste, which was revised in 2012.

Each Nippon Soda site properly stores and manages condensers, transformers, high-pressure mercury lamps and other devices that contain PCBs as prescribed under the aforementioned Act.

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

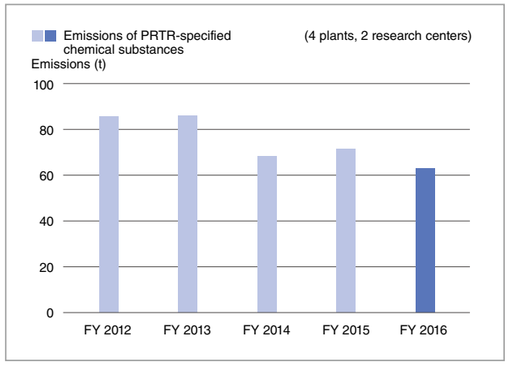
Atmosphere and water area protection

The Nippon Soda Group promotes efforts to protect the atmosphere and water quality.

Actions to conform to the PRTR Law

Nippon Soda takes measures to reduce emissions to the environment of Class 1 chemical substances specified by the Pollutant Release and Transfer Register (PRTR) Law, which was implemented in 2000 and revised in 2008. Changes in the emissions of Class 1 chemical substances specified by the PRTR Law are shown in Figure 6.

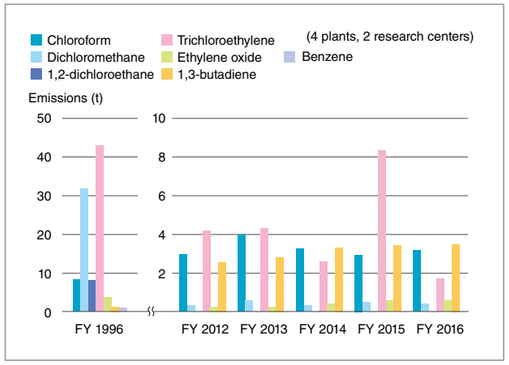
[Figure 6] Changes in the emissions of Class 1 chemical substances specified by the PRTR Law



Reduction of emissions of harmful substances to the atmosphere

Nippon Soda takes measures to reduce emissions of 13 voluntarily controlled harmful air pollutant chemical substances. Changes in the emissions of voluntarily controlled chemical substances to the atmosphere are shown in Figure 7.

[Figure 7] Changes in the emissions of voluntarily controlled chemical substances to the atmosphere

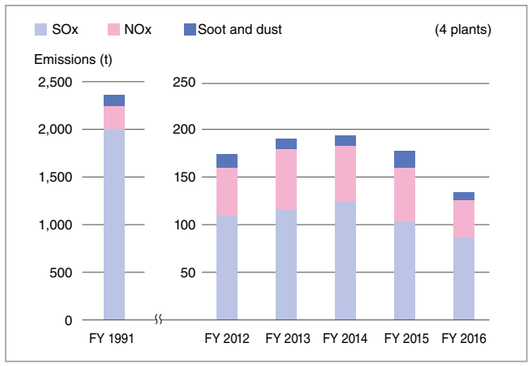


We manage the following seven kinds of chemical substances in accordance with our voluntary standards: chloroform, dichloromethane, 1,2-dichloroethane, trichloroethylene, ethylene oxide, 1,3-butadiene and benzene.

Chemical air pollutants are trace elements in the air that adversely affect humans, animals, plants and the living environment. Figure 8 shows changes in the emissions of sulfur oxide (SOx), nitrogen oxide (NOx), and soot and dust. Emissions of these substances from stationary sources are controlled under the Air Pollution Control Act (1968).

In fiscal 2016, in comparison with the base year (fiscal 1991), emissions of sulfur oxide, nitrogen oxide, and soot and dust decreased by 95.8%, 80.6% and 93.0%, respectively.

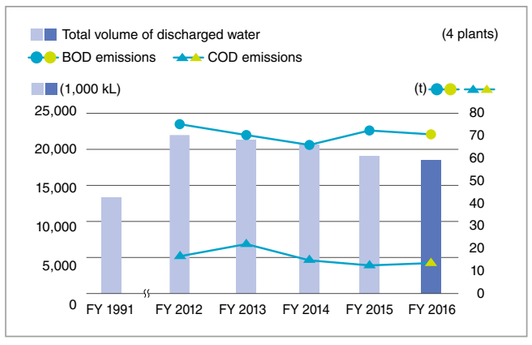
[Figure 8] Changes in the emissions of substances controlled by the Air Pollution Control Act



Reduction of emissions of harmful substances to water

Nippon Soda takes measures to reduce emissions of BOD and COD, which have an impact on the quality of water in the environment. Figure 9 shows changes in the total volume of discharged water and emissions of BOD and COD.

[Figure 9] Changes in the total volume of discharged water and emissions of BOD and COD



BOD, or biological oxygen demand, is the amount of oxygen consumed by organic substances in water when they are decomposed by microorganisms. It can be used as an indicator of the level of contamination of rivers by organic substances. COD, or chemical oxygen demand, is the amount of oxygen required to oxidize organic substances in water and can be used as an indicator of water quality.

Actions to conform to the Fluorocarbons Emission Control Act

In response to the Fluorocarbons Emission Control Act enacted in April 2015, simplified inspections have been conducted by the Inspection Manager at one worksite at a time.

The Act requires a company whose annual calculated emissions exceeds 1,000 t-CO_2 to report this to the national government. In FY 2016, the calculated emissions of Nippon Soda reached about 1,400 t-CO_2, which is over the reporting threshold.

Preservation of biodiversity

Preservation of biodiversity

Nippon Soda has taken measures to address global warming, to reduce environmental impacts such as the effective use of resources and management of chemical substances, to use water resources effectively, and to prevent the pollution of air, water, soil and others, mainly in areas where our production sites are located. In FY 2017, we will place particular emphasis on the preservation of biodiversity.

VOICE

Efforts to reduce environmental impact

Toshifumi Okahiro
RC Engineering Group Leader
Odawara Research Center

As shown by the revision of the Law Concerning the Recovery and Destruction of Fluorocarbons and renaming of it as the Law Concerning the Discharge and Control of Fluorocarbons, environmental regulations have become stricter every year. In response, we promote continuous improvement efforts, such as compliance with requirements and regular review of our environmental targets.

Odawara Research Center replaced fuels for boilers from kerosene to liquefied natural gas, resulting in a roughly 10% reduction in CO_2 emissions. When renewing devices, we replace old devices with energy-saving alternatives. We also encourage employees to raise their awareness of energy saving (turning off unnecessary lights, reduction of impact of air-conditioning systems, etc.). These efforts helped reduce our annual electricity consumption by some 10% compared with the level 10 years ago.

Environmental accounting

Environmental-protection-related investments, costs and effects of Nippon Soda in fiscal 2016 are quantitatively identified and evaluated.

Scope of environmental accounting: Data shown pertain to Nippon Soda only and do not include those of group companies.
Period covered: April 1, 2015 to March 31, 2016
Reference guideline: Ministry of the Environment's Environmental Accounting Guidelines (2005)

Environmental protection costs (classification according to business activities)

Environmental protection costs (classification according to business activities)								
Classification		Major measures taken	Invested amount*			Costs*		
			FY 2014	FY 2015	FY 2016	FY 2014	FY 2015	FY 2016
(1) Business area costs			171	130	179	2,568	2,905	2,536
Details	1-1 Pollution prevention costs	Water pollution prevention, air pollution prevention	147	117	160	1,916	2,138	1,975
	1-2 Global environmental protection costs	Global warming prevention	14	2	19	79	101	88
	1-3 Resource recycling costs	Effective use, reduction of waste	10	11	0	573	666	473
(2) Upstream and downstream costs		Use of low-sulfur fuel oil C, precious metal catalyst recovery	0	0	0	80	65	71
(3) Environmental activity costs		Environmental measures, environmental analysis, waste treatment	0	0	0	465	517	548
(4) R&D costs		Research to reduce environmental impact	0	0	0	314	264	256
(5) Social activity costs		Environment-related contributions to external parties	0	0	0	1	1	1
(6) Environmental damage costs		Levies on air pollution, asbestos removal costs	0	0	0	245	121	266
Total			171	130	179	3,673	3,873	3,678

* The amounts are recorded amounts. Unit: million yen

Economic effects produced by environmental protection

Economic effects produced by environmental protection (actual effects)				
Details of effects		Amount		
		FY 2014	FY 2015	FY 2016
Revenue	1) Revenues through recycling	0	0	0
Cost saving	2) Cost saving through energy saving	165	146	163
	3) Cost saving through resource saving	10	7	7
	4) Saving of waste disposal costs	1	0	0
Total		176	153	170

Unit: million yen

Process Safety & Disaster Prevention/BCP

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

Management approach

Nippon Soda performs periodic inspections and constant repairs and renovations in order to prevent accidents at its facilities and ensure safe and stable operations at each manufacturing site. We also regularly conduct emergency drills and provide education to prepare employees for possible accidents. Through these efforts, we continuously improve our risk management system. When facilities are newly constructed or renovated, our internal experts conduct safety reviews and audits to verify safety at the stages of planning, before starting construction, and before and after trial operation. We also undergo regular diagnoses of our disaster prevention capability conducted by external specialists.

Our business continuity plan (BCP), which was developed to help us be prepared for natural disasters such as earthquakes and other emergencies that could result in extensive damage, is regularly reviewed and improved.

CSR activities to protect the corporate value **POINT**

① Prevention of accidents at plants through risk management
② Improvement of BCP

Process safety and disaster prevention

Risk assessment and reduction through process safety and disaster prevention

The Nippon Soda Group performs risk assessments of facilities, machines and manufacturing processes to ensure process safety and disaster prevention. Identified risks are prioritized and measures to reduce them are implemented in order of risk severity.

Establishment of an emergency risk management system

The highest priority is given to preventing accidents and disasters. To prepare for unavoidable accidents and disasters, we have established an emergency risk management system designed to minimize damage.

Standards on Emergency Response

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

Safety audit to confirm the safety of plants

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

In safety reviews and audits, we conduct the following three types of audits/reviews by taking into consideration the scale of construction and the details of processes: safety audit of the Head Office, safety reviews of plants, and safety reviews of departments.

Facilities of manufacturing group companies undergo an audit of the management of process safety and disaster prevention in periodic CSR audits. They make improvements based on audit results.

Examples

Safety audits prior to trial operation by the Head Office

① Nihongi Plant September 3 (Thursday), 2015

Safety audits prior to trial operation by the Head Office for the construction of utility facilities (1st)

This construction project was related to power receiving facilities, measures to address power outage, a package boiler, and an exhaust gas collection system for product manufacturing. While the project comprises multiple construction works, this audit only covered the installation of a new package boiler (1st phase) and a boiler exhaust gas cooling system. As a result of document and on-site audits, 13 safety issues were identified. After all of these safety issues were addressed, the trial operation was successfully completed.

② Takaoka Plant October 27 (Tuesday), 2015

Safety audit prior to trial operation by the Head Office for the construction of TBT organic titanium monomer solvent conversion

These construction works aimed to convert the organic solvent used for manufacturing organic titanium monomer into a solvent with lower toxicity and lower environmental impact. As a result of document and on-site audits, 22 safety issues were identified. After all of these safety issues were addressed, the trial operation was successfully completed.

③ Nihongi Plant March 3 (Thursday), 2016

Safety audits prior to trial operation by the Head Office for the construction of utility facilities (2nd)

This construction project was related to power receiving facilities, measures to address power outage, a package boiler, and an exhaust gas collection system for product manufacturing. While the project comprises multiple construction works, this audit only covered the installation of new power receiving facilities and measures to address power outage at the plant. As a result of document and on-site audits, 18 safety issues were identified. After all of these safety issues were addressed, the trial operation was successfully completed by the end of April 2016.

Diagnosis of disaster prevention capabilities by a third party

The disaster prevention capabilities of Nippon Soda's manufacturing group companies are diagnosed every year by Sompo Japan Nipponkoa Risk Management Inc. The FY 2016 report on the diagnosis is presented on page 94.

Disaster prevention system involving local communities

Each site of Nippon Soda implements regular disaster drills so as to be prepared for possible emergencies, such as fires and explosions, and earthquakes. Some of these disaster drills are conducted in cooperation with other nearby plants and local governments. These drills are conducted by taking into account the environment and other characteristics unique to each region so that they can be applied in real settings.

Emergency drills conducted

Site	First half (dates of drills conducted)	Second half (dates of drills conducted)
Nihongi Plant	Spring plant emergency drill (June 19)	Joetsu City Nakago-ku emergency drill (November 11)
Takaoka Plant	Spring comprehensive plant emergency drill (Joint drill with the city: June 9)	Fall comprehensive plant emergency drill (November 26)
Mizushima Plant	Power outage drill (April 3) Toxic substance leak drill (June 29, July 30 and September 30)	Comprehensive emergency drill (November 24) Emergency drill for accidents during product transportation (October 29) Toxic substance drill (February 3)
Chiba Plant	Comprehensive plant emergency drill (May 28) (Joint drill with public firefighters, a joint disaster response unit, and Chiba Plant Disaster Prevention Team)	Plant emergency drill (Chiba Plant Disaster Prevention Team alone) (September 28) Comprehensive plant emergency drill (including a risk management drill) (December 9) Evacuation drill (for tsunami) (March 17)
Odawara Research Center (Odawara)	Comprehensive emergency drill (May 28)	Department emergency drill (Five departments in total, each separately conducted, October and November)
Odawara Research Center (Haibara)	Emergency evacuation drill (June 24)	Emergency earthquake warning issuance drill (November 5) Comprehensive emergency drill (February 24)
Odawara Research Center (Bandai)	—	Emergency drill (December 3)
Chiba Research Center	Participated in the Chiba Plant's comprehensive emergency drill (May 28)	Participated in the Chiba Plant's comprehensive emergency drill (December 9)
Head Office	—	Evacuation drill (December 3) Drill for establishing and operating the Head Office Disaster Response Headquarters (March 11)

Business continuity plan (BCP) basic policy

In the event of a large-scale earthquake or other natural disaster, or a crisis with the potential to result in serious damage, the social responsibility of Nippon Soda is to protect local residents, full-time and temporary employees, and affiliate company employees from possible harm posed by toxins, deleterious substances, hazardous materials, high-pressure gas and/or large stores of energy under the control of its offices.

Since the company produces chemicals, agricultural chemicals, medicines, and other products that are indispensable for people's daily life and ingredients of industrial products, if the supply of these products is disrupted due to a disaster or crisis, tremendous inconvenience would be imposed not only on the company's customers but also on general consumers. In this context, Nippon Soda's BCP, or business continuity plan, must above all ensure the safety of its own employees, affiliate company employees and temporary employees and their families and local residents and also promptly safeguard the Head Office, plants, research centers, branch offices and sales offices.

The BCP must also be designed to help its own employees, affiliate company employees and temporary employees be fully aware of their individual responsibilities and allow them to take on their assigned role at their discretion in order to execute emergency operations. It is also necessary for the company to establish a system that enables them to act flexibly according to the circumstances. With all the above taken into account, the principles of the BCP are defined as follows:

Principles of the BCP

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

November 26, 2015, Evacuation drill in response to tsunami warning (Takaoka Plant)

Continuation using the PDCA cycle

The RC activity is built into the PDCA cycle by incorporating the BCP in the voluntary activity code, helping the BCP "spiral up."

Continuation of supply of products according to customer needs

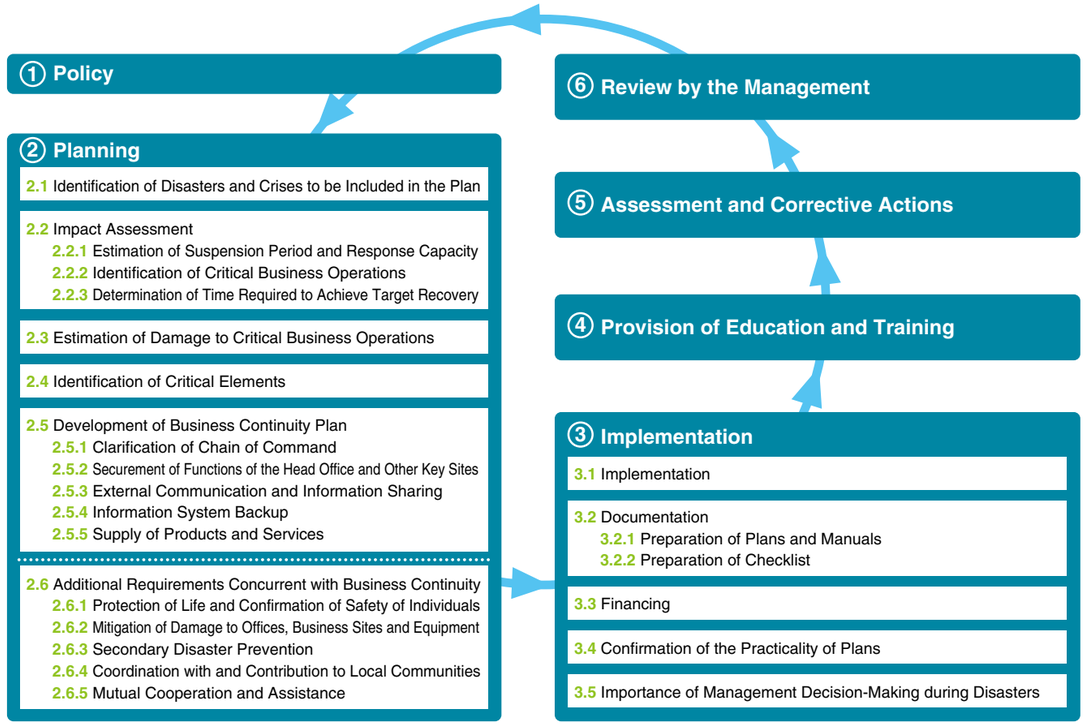
The BCP aims to ensure the supply of products to customers as requested at any time. To achieve this objective, improvement is accelerated using the PDCA cycle.

Disasters and risks covered by the BCP

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

Efforts for business continuity

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



VOICE

Participation in training programs and workshops to improve disaster prevention skills and knowledge

Chiba Plant is located in the center of the Keiyo Industrial Complex alongside Tokyo Bay. The construction of the industrial complex started in the late 1960s. Many facilities in the industrial complex are said to have been damaged by seawater and aging. To prevent major accidents at facilities and ensure safe and stable operation, we implement measures to prevent age-related damage as well as manage the operation based on data and the "3 Realities Principle," which emphasizes real settings, real things and real circumstances. To be prepared to respond to possible accidents in the future, we conduct joint disaster drills in cooperation with public firefighters and a joint disaster response unit, which consists of neighboring companies. We also conduct drills at the plant on the assumption of a disaster occurring on a weekday, at night or on a holiday, and evacuation drills on the assumption of the occurrence of a tsunami. In addition, we join external disaster drills in order to improve our disaster prevention skills and preparedness. We also visit external sites that provide hands-on disaster training and external relevant facilities, and participate in workshops where reports on actual accidents are made in order to gather information.

Naoaki Kataoka
RC Administration Section
RC/Engineering Department
Chiba Plant

Occupational Safety and Health

The Nippon Soda Group promotes efforts to create an accident-free working environment in order to provide a healthy and happy working experience. We are implementing various measures to achieve and maintain the goal of no workplace accidents and promote employee health.

Management approach

Nippon Soda has introduced an occupational safety and health management system (OSHMS) at all of its plants and one research center. In accordance with the OSHMS, we conduct risk assessments and constantly develop, implement, review and improve measures (PDCA) to ensure safe and healthy workplaces with the aim of achieving the goal of zero occupational accidents. To help employees maintain and improve their health, we provide them with health guidance based on medical examination results and take measures to reduce incidents of personal injury or illness. A mental health check is also conducted and consultations with qualified mental health specialists are available so that we can offer mental care services whenever necessary.

CSR activities to protect the corporate value
POINT

1. Prevention of accidents through risk management
2. Proactive management of workers' health

Occupational safety and health management system (OSHMS)

Nippon Soda has introduced an occupational safety and health management system (OSHMS) at all plants and one research center.

The OSHMS is a tool to identify safety policies for worksites and develop, implement, review and maintain the identified policies. Covering also organizational structures and procedures, it helps achieve goals and improve performance systematically by promoting the PDCA cycle.

To integrate OSHMS and RC activities effectively, Nippon Soda places an emphasis on OSHMS risk assessment. The basic objective of RC activities is to identify and assess risks based on RC Codes and to reduce them to permissible levels. The plants and research center identify and assess occupational accident risks and, if they are not permissible, reduce them to permissible levels.

Efforts to prevent occupational accidents

Nippon Soda uses two approaches in its efforts to prevent occupational accidents: one is to reduce occupational accident risks themselves and the other is to prevent worker errors.

Activities to reduce occupational accident risks

Our focus is mainly on reducing occupational accident risks based on OSHMS risk assessments but also includes efforts to reduce risks by identifying "hiyari-hat" (near miss) accidents and by sharing information on accidents that have occurred at other business sites and companies. When new plants are constructed and existing ones extended, a safety review and audit are required. Before starting operation, we reduce accident risks to permissible levels.

Number of occupational accidents causing an absence from work

In FY 2016, one occupational accident causing an absence from work was reported by Nippon Soda.

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

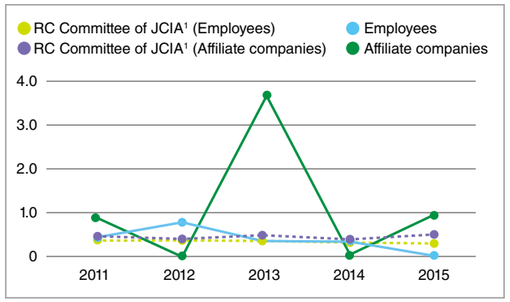
FY	2012	2013	2014	2015	2016
Nippon Soda	1	2	1	0	1
Affiliated companies	0	1	3	1	0

Among employees of eight group companies, one fatal occupational injury and five occupational accidents causing an absence from work were reported.

Change in occupational accident frequency rates and severity rates

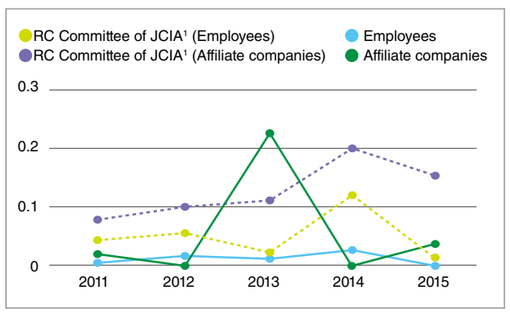
Figure 1 shows the change in occupational accident frequency rates and Figure 2 the change in severity rates.

[Figure 1] Change in occupational accident frequency rates



Occupational accident frequency rate: Casualties/Total working hours (per million hours)
1 JCIA stands for Japan Chemical Industry Association.
Note) The data for Figure 1 and Figure 2 were collected from January 1 to December 31 of each year.

[Figure 2] Change in the severity rate of occupational accidents



Severity rate of occupational accidents: Man-days lost/Total working hours (per 1,000 hours)

Efforts to prevent human error by workers

The 5Ss and the 4 Safety Cycles are the two fundamental concepts that form the basis of safety activities for the entire Nippon Soda Group. The senior management at each business site takes the initiative in promoting safety awareness among employees so that safety activities are improved through the continuous application of the PDCA cycle.

1. The "5Ss" collectively refers to five Japanese words: *seiri* (organizing), *seiton* (tidying), *seiso* (cleaning), *seiketsu* (cleanliness) and *shitsuke* (discipline).
2. 4 Safety Cycles
   - KY[2] before starting operation
   - Pointing and vocalizing during operation
   - Mutually directing attention during operation
   - Identifying "hiyari-hat" (near miss) accidents after operation
3. Safety-awareness-raising efforts at business sites

2 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.

The number of consecutive days without accidents resulting in absence from work (As of April 1, 2016)

Worksite	The number of consecutive days without accidents resulting in absence from work (years)	The number of occupational accidents causing an absence from work for FY 2016
Head Office	4,691 days (12 years)	0
Nihongi Plant	1,295 days (3 years)	0
Takaoka Plant	66 days (0 years)	1
Mizushima Plant	8,547 days (23 years)	0
Chiba Plant	4,252 days (11 years)	0
Odawara Research Center	5,641 days (15 years)	0
Chiba Research Center	8,804 days (24 years)	0
Aizu Plant, Nisso Metallochemical Co., Ltd.	1,459 days (3 years)	0
Chiba Plant, Nisso Metallochemical Co., Ltd.	10,652 days (29 years)	0
Koriyama Plant, Nisso Fine Co., Ltd.	1,401 days (3 years)	0
Isohara Plant, Nisso Fine Co., Ltd.	16 days (0 years)	1
Onahama Plant, Nisso Fine Co., Ltd.	52 days (0 years)	1
Shinfuji Kaseiyaku Co., Ltd.	3,044 days (8 years)	0
Nisso Shoji Co., Ltd.	4,689 days (12 years)	0
Sanwa Soko Co., Ltd. (including Sanso Unyu Co., Ltd.)	27 days (0 years)	3 (one death)
Nisso Engineering Co., Ltd.	3,819 days (10 years)	0
Nisso Construction Co., Ltd.	7,921 days (21 years)	0
Nisso Green Co., Ltd.	5,845 days (16 years)	0

Survey on occupational accident prevention by Sompo Japan Nipponkoa Risk Management Inc.

As part of the stakeholder engagement effort, we requested the Global Business Department of Sompo Japan Nipponkoa Risk Management Inc. to conduct a survey on occupational accident prevention. The survey results, which are summarized below, will be used in future safety activities.

On the day of the survey, an observation of a pre-work meeting, an on-site survey, an interview survey with relevant parties, and the confirmation of relevant documents were conducted.

Survey

Date: January 22 (Friday), 2016　Site: DC Section, 2nd Manufacturing Department, Manufacturing Division, Chiba Plant


Pre-work meeting


Interview


On-site survey-1


On-site survey-2

Reporting meeting

Reporting meeting: February 25 (Thursday), 2016

Site: Staff from Chiba Plant


Reporter


Meeting

1 Survey supervisor's comment

We have assessed the management of safety and health issues at the DC Section and it was rated generally favorable thanks to efforts by the Section Manager, Head, Shift Chief and other supervisors. However, occupational accidents, although not serious, have been reported in recent years. For this reason, we offered the proposals as shown below in the survey in order to contribute to the further improvement of safety and health management:

2 Major proposals for improvement

After survey results were presented, the following proposals were made while sharing information on accidents that have occurred at other companies.

1. Pre-work meeting: Nippon Soda's employees and its affiliate companies' workers should sit around one table. Section Manager and Head should face workers so that they can observe workers' level of understanding as well as the state of their physical and mental health. Make it a routine to "rise and bow" before starting a meeting.
2. Risk prediction: Workers should carry the KY card with them while on-site so that they can refer to it whenever necessary. To predict risks, measures to address all risk factors should be discussed and recorded. The leader should encourage workers to express their opinions.
3. The 4 Safety Cycles: The 4 Safety Cycles should be written in large letters and posted in different places including the control room. Employees should be provided once more with detailed information about the objectives of the 4 Safety Cycles and what activities should be implemented.
4. Pointing and vocalizing: Employees should be educated once again about the fact that "pointing and vocalizing reduce human error and increase concentration." Near a signboard bearing the 4 Safety Cycles, place a photo of employees pointing and vocalizing during the operation concerned in order to make sure that workers perform "pointing and vocalizing."
5. Mutually directing attention: Employees should be educated once again, using examples, about how to direct each other's attention during operations. Compile a collection of examples of "mutually directing attention" that have been reported from across the entire Chiba Plant.
6. Hiyari-hat: The operation manager should carefully review each reported case of hiyari-hat and give comments before providing feedback to the reporter (team). After the feedback, the manager should provide information about the case to workers at a pre-work meeting.
7. Adjustment for differences in basic understanding of safety activities and values: Conduct a questionnaire to identify if there are differences in the basic understanding of safety activities and values between supervisors and workers. It should be anonymous to ensure collection of frank opinions.
8. Measures to avoid mishearing, oversight, misunderstanding and memory lapses: Use clear expressions in instructions and manuals. Do not depend on memory alone. Require workers to repeat the explanations and instructions they have been given. Provide detailed explanations. Help workers observe themselves objectively.
9. Promotion of OJT: Develop OJT curriculum and define the objectives and details of training programs, which should be widely and fully disseminated among employees. Results of OJT should be recorded and retained, and should be recognized as achievements.

In addition to the proposals above, proposals for improvement based on results of on-site inspections, "good points," and other comments were also provided.

Health promotion

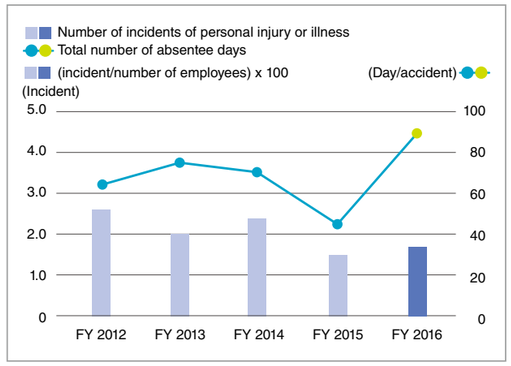
Recognizing that achieving our production activity goals, preventing occupational accidents and performing CSR and RC activities are all dependent on the wellbeing of our workers, Nippon Soda makes efforts to promote employee health.

As one such effort based on specific numerical targets, all business sites work to reduce the number of incidents of personal injury or illness and the total number of absentee days related to injury or illness. Figure 3 shows the changes in these numbers.

Each business site develops and implements its own health promotion activities, including a "Kenkoryoku Up Dai-sakusen" (Health Promotion Campaign). Some other examples are warm-up exercises in the morning and after lunch and walking and other exercises during lunch break. There are also other programs to help employees manage their health, such as health lectures by an external organization and the measurement of arteriosclerosis indicators.

Healthcare staff, consisting of occupational physicians and nurses, provide health guidance based on periodic medical examination results and other data.

[Figure 3] Change in the number of incidents of personal injury or illness (per 100 persons) and the total number of absentee days (per incident)



The data for Figure 3 were collected from April 1 of each year to March 31 of the following year.

Mental health care

Our mental healthcare program consists of the following four components:

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

To help employees with their self-care 1 and provide care by occupational healthcare staff and other specialists at each workplace 3 a mental health check is conducted once a year. To improve care by administrators in the workplace 2, lectures on mental health by external specialists are organized. Consultations with qualified mental health specialists by phone or face-to-face are also available as part of efforts to provide care by external parties 4.

In addition, lectures on mental health are provided by an external organization to help employees manage their own mental health.

VOICE

To maintain the goal of no accidents and promote employee health

Chiba Research Center had already been undertaking risk assessments of research activities before the introduction of OHSAS 18001 with the aim of preventing accidents and illness. As a result, we have successfully achieved and maintained the goal of no workplace accidents. Every year, we conduct a "Kenkoryoku Up Dai-sakusen" (Health Promotion Campaign) for 60 days from October 1 to promote employee health. This campaign has helped some employees make it a habit to do something for their health on a daily basis, resulting in the prevention of lifestyle-related diseases.

Hiroyuki Mori
Department of Administration
Chiba Research Center

Opinion on the Occupational Health and Safety Survey

Sompo Japan Nipponkoa Risk Management

March 18, 2016
Akira Ishii
Representative Director and President
Nippon Soda Co., Ltd.

Re: Opinion on the Occupational Health and Safety Survey

Dear Mr. Ishii,

Below is a brief summary and our opinion on the occupational health and safety survey.

The purpose of the survey is to propose recommendations to help reduce the number of occupational accidents at the DC Unit under Manufacturing 2nd Section, Manufacturing Department of Chiba Plant, focusing on the management aspects. The survey includes review of past accidents, on-site survey and interview with the relevant managers on current health and safety management practices.

The following survey activities were conducted at the targeted workplaces on January 22nd, 2016: "observation of shift handover and early morning meeting before production", "on-site survey", "interviews with relevant personnel" and "document review"

Overall Opinion

- Occupational health and safety management at DC Unit is rated as good overall due to the continued effort made by their managers. While there have not been any serious accidents, this Plant have experienced a few occupational incidents. Recommendations proposed based on this survey for improving occupational health and safety management are as shown in the following section.

Returning to the origin of the "four safety cycle"

- The history of the "four safety cycle" is long and has been part of the company's safety culture. However, it seems that this practice has started to become repetitious and monotonous. It is important to return to the origin of this cycle and revisit the goal and implemented contents to further enhance this safety culture.

Promoting "pointing and calling"

- We value the plant's efforts in posting the "pointing and calling" phrases in large print at key locations around the production area. However, the actual implementation was not commonly observed. It is important to increase the plant's momentum and integrate this safe practice within the work procedure.

Sharing and understanding the values of safety activities

- Questionnaire surveys on the implementation of safety activities will help grasp the extent of understanding of the implementation purposes at both the management level and the production level, and the results are beneficial for future safety management. The questionnaire can be used to establish a common understanding of the purpose and sharing of values of safety activities among the two levels.

Sincerely,

Hidehiro Sumi
Representative Director and President
Sompo Japan Nipponkoa Risk Management Inc.

Accident Reports

Ⅰ. Osaka Office, Sanso Unyu Co., Ltd.

Fatal accident due to the fall of a 10-ton tanker from a bridge

1. **Date and time of the accident**:
   4:15, Saturday, July 18, 2015
2. **Outline of the accident**: A 10-ton tanker loaded with products (chelating agents) collided with a "kei" mini-vehicle on the Nakasu Long Bridge across the Yasu river near Kobama-cho 2545, Moriyama City in Shiga Prefecture and fell 15 meters into the 1.5-meter deep river. At around 8:00, the driver (a 41-year old male employee of Sanso Unyu) was rescued and taken to hospital, but his death was confirmed at 8:41. Nothing loaded on the tanker was spilled.
3. **Cause**: According to an explanation provided by the Otsu District Public Prosecutors Office, "The tanker crossed over the center line and collided with the 'kei' mini-vehicle (not prosecuted due to the death of the person involved)."
   There is no data available to determine the situation when the tanker fell into the river: The digital tachometer was immersed in water and the contents of its memory cannot be recovered, and the tanker was not equipped with an event data recorder.
4. **Measures to prevent recurrence**: All transportation vehicles have been equipped with an event data recorder with a lane deviation warning system. Safe driving education has been provided to all drivers.
5. **Measures taken by other sites**: The tachometers installed in transportation vehicles belonging to all the offices of Sanso Unyu have been replaced with digital tachometers with a communication interface, which allows driving state data to be centrally controlled from the Head Office server. In addition, an event data recorder with a lane deviation warning system has been installed in all transportation vehicles belonging to all offices. Safe driving education has been provided to all drivers from all offices.

Ⅱ. Odawara Research Center in Haibara

Explosion in a clean bench, Laboratory in Main Building

1. **Date and time of the accident**:
   16:05, Thursday, June 25, 2015
2. **Outline of the accident**: An employee conducting an experiment in the laboratory inserted both arms into a clean bench and, with the transparent glass hood being lowered to the upper part of his arms, lit a Chakkaman (ignition lighter) to light a gas burner. An explosion occurred. No fire was caused but the employee suffered burns to the face, neck and both arms. This accident did not cause him to be absent from work. In the laboratory, the glass of the clean bench was broken and the ceiling and walls were damaged by the blast from the explosion.

Exploded clean bench

3. **Cause**: We assumed, because a gas burner with a pilot light was in use, that the valve for the pilot light had been slightly open and LP gas had leaked into the interior of the clean bench.
4. **Measures to prevent recurrence**: The use of all similar types of gas burners with a pilot light was prohibited.
5. **Measures taken by other sites**: The use of all similar types of gas burners with a pilot light was prohibited at all worksites.

Ⅲ. Isohara Plant No. 1, Nisso Fine Co., Ltd.

Plant No. 7: A burn from a fire caused by static electricity

1. **Date and time of the accident**:
   8:35, Tuesday, March 15, 2016
2. **Outline of the accident**: While feeding products consigned from a company outside the Nippon Soda Group from a flexible intermediate bulk container (FIBC) into a dryer, static electricity discharged at the opening of the FIBC sparked a fire at the inlet of the dryer and ignited the flammable solvent before dehydration began. This caused a fire and a 25-year-old temporary employee suffered burns to his face, hand, arm and other sites, which would take three months to heal completely. The fire was extinguished by public firefighters at 9:20. The plant building (about 50 m^2) was partially burned, including the roof, by this fire.

Burned roof

3. **Cause**: We assumed that when products were dropping from the FIBC, static electricity was generated by friction, which induced a charge and caused sparks at the inlet of or inside the dryer, which in turn ignited the flammable solvent before dehydration began.
4. **Measures to prevent recurrence**: FIBCs will be replaced with metallic containers and, when products are fed into a dryer, a ground connection will be used to dissipate static electricity and nitrogen purging will be used to replace flammable gas with inert gas.
5. **Measures taken by other sites**: At all manufacturing offices, similar processes were inspected. At sites where highly flammable substances are dealt with, a ground connection has been made (removal of electricity) and as many measures as possible have been taken to replace flammable gas with inert gas.

Distribution Safety, Quality Assurance and Consumer Issues

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

Management approach

The Nippon Soda Group reduces risks of hazards, toxic harm and in-transit accidents associated with the transportation of products so as to protect the safety and environment not only of customers but also of workers engaged in distribution processes and of those living in areas near distribution routes.

We also provide information that helps customers use high-quality products safely, comfortably and in a stable manner. While ensuring safety and hygiene for customers, we provide products that increase customer satisfaction.

CSR activities to protect the corporate value POINT

1. Prevention of distribution accidents through risk management
2. Prevention of complaints through risk management
3. Identification of and response to consumer issues

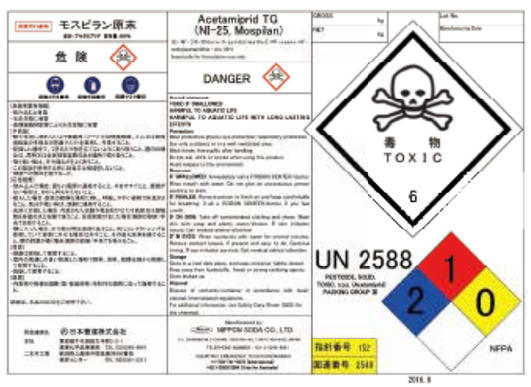
Efforts to ensure transportation safety

Yellow Card[1]

Nippon Soda promotes the use of Yellow Cards. We at all times provide the latest information using wording that complies with the GHS requirements and reflecting revisions to relevant laws promptly in order to avoid all risks.

Container Yellow Card[2] (product labels)

Nippon Soda promotes the use of Container Yellow Cards, mainly for hazardous materials, so that in the event of an emergency those in charge can make an immediate response. As with Yellow Cards, we provide the latest information at all times using wording that complies with the GHS requirements and appropriate pictograms, and reflecting revisions to relevant laws promptly in order to avoid all risks.



Example of a combined label

Measures to prevent transportation accidents involving hazardous materials

Nippon Soda maintains a “Safety Information List” containing information on the transportation route for designated products, emergency contacts, and other information necessary in an emergency situation so as to be better prepared and minimize possible damage in the event such a situation occurs. To maintain and improve their preparedness for a smooth response to an emergency, each plant regularly implements emergency preparedness and communication drills in cooperation with local fire and police stations, neighboring companies and transportation firms. These drills are conducted for a variety of scenarios.

Transportation risk assessment

Nippon Soda identifies risks from various perspectives to avoid damage to products during transshipment at an intermediate destination or in the event of a traffic accident during delivery to customers. If the identified risks are unacceptable, efforts are made to reduce them to permissible levels. We take measures to constantly remind employees of disasters that occurred in the past and implement preventive measures to avoid recurrence. Efforts are also made to prevent risks that may occur in the future.

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 spillage, fire, explosion or other safety problem that may occur during transport, as well as emergency contacts. The issuance and carrying of Yellow Cards is required by the Poisonous and Deleterious Substances Control Act and other laws.

2 A Container Yellow Card is a label that is affixed to containers. It indicates the United Nations number and guide number defined by the Emergency Response Guidebook in addition to other information.

Request for improvement of customers’ facilities

When delivering our products to customers, if there are any safety problems with regard to workers at facilities where our products are received or any risks such as a potential mixing of foreign substances or spills, Nippon Soda makes a specific request for improvement. This system has proven successful, where customers who made improvements in compliance with our requests in the past have averted problems.

Audit of distribution companies

On-site audit (October 23, 2015, Kawaguchi Office, Sanwa Soko Co., Ltd.)

On-site audit (October 28, 2015, Osaka Office, Sanso Unyu Co., Ltd.)

On-site audit (October 28, 2015, Ibaraki Office, Sanwa Soko Co., Ltd.)

Desk audit (October 29, 2015, Head Office, Sanso Unyu Co., Ltd.)

Nippon Soda regularly sees from an external viewpoint whether companies to which we outsource distribution comply with all our requirements to ensure distribution safety, and makes requests to improve non-conformities in order to eliminate disasters and accidents. We also have a system to support their efforts to make improvements.

Distribution-related safety education of distribution companies

On a regular basis, Nippon Soda provides distribution companies with education on the

Lecture-type education (November 17, 2015, Ohhashi Warehouse Co., Ltd.)

hazards and harms of our products, and other information on safe handling procedures that deliver our products to customers. We ensure that our products can be delivered to customers without any problems through repeatedly raising awareness of the possibilities of distribution companies.

Instructions on how to handle products in paper packages (May 15, 2015, Omiya Office, Sanwa Soko Co., Ltd.)

Training on how to wear a gas mask (November 25, 2015, Kurume Transportation Co., Ltd.)

Efforts to ensure quality assurance

Quality risk assessment

Nippon Soda focuses its proactive efforts on quality risk assessment. We regard a quality problem that has occurred at a plant as a company problem and adopt whatever corrective measures and preventive measures have been proven highly effective in order to take better measures to prevent recurrences.

Quality Assurance Team leaders from all plants have periodic meetings to share information with the aim of eliminating problems from the entire company.

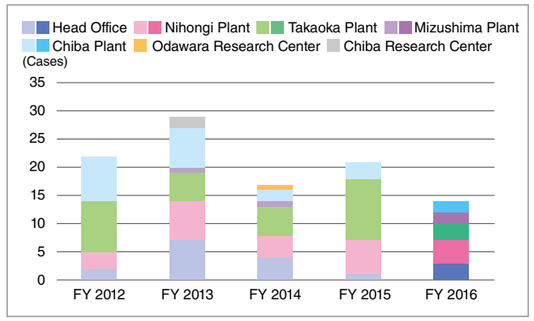
Quality management system (QMS)

Each of the plants and one research center of Nippon Soda have met ISO 9001 quality standards, obtained certification and established their own quality management systems. We sincerely address issues identified in user audits and incorporate their recommendations so that we can establish a system with a greatly enhanced foundation.

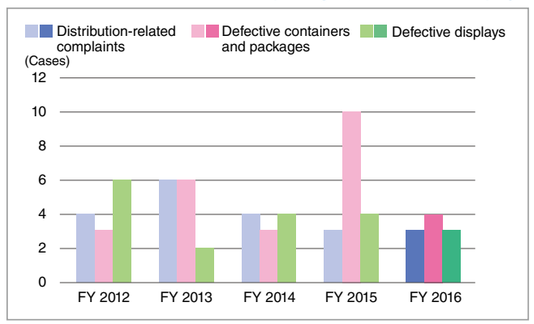
Efforts to achieve zero quality complaints

Figure 1 shows the change in the number of product-related complaints. As the Figure 1 shows, we received 14 product-related complaints in FY 2016. According to Figure 2, these complaints consist of 3 cases of distribution-related complaints, 4 cases of defective containers and packages, 3 cases of defective displays, and 4 other cases. Nippon Soda constantly conducts internal audits in order to determine if measures undertaken in response to past complaints have lost their effectiveness and become mere empty shells or obsolete, or if more improved measures have been adopted. We also focus on preventive measures for possible complaints and develop corrective measures for them.

[Figure 1] Change in the number of product-related complaints



[Figure 2] Change in the numbers of distribution-related complaints, defective containers and packages, and defective displays



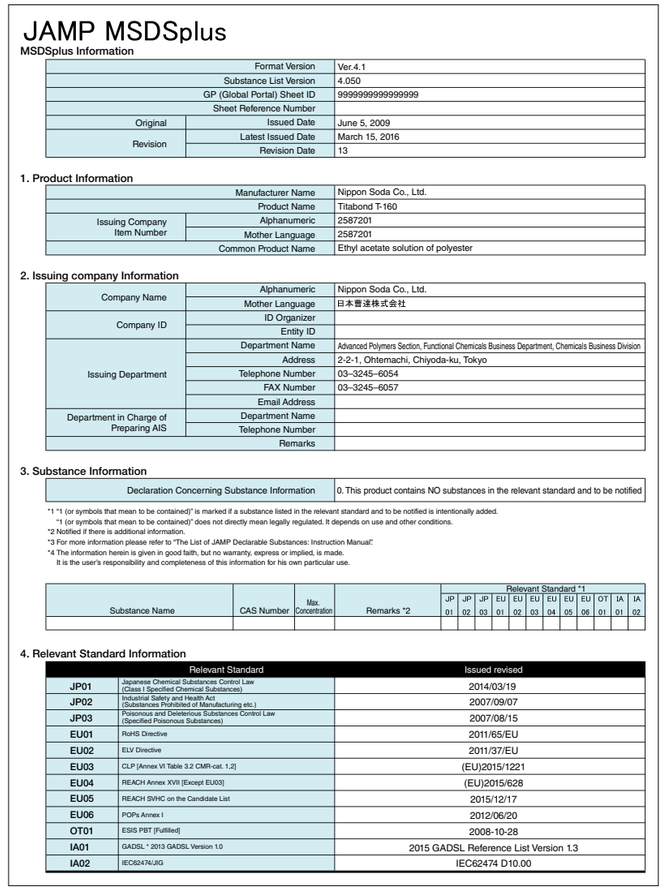
Efforts to address consumer issues

Nippon Soda provides product information to protect consumers who use our products from disasters, protect their health and safety, and prevent environmental pollution.

To promote these efforts, we revise our SDS to meet GHS requirements[3] and prepare delivery specifications and investigation reports on the presence or absence of harmful substances. As of recently, we are often requested to conduct surveys using the MSDSplus[4]. In response, we collect and report information not only on products but also their ingredients.

3 Please refer to notes 2 and 3 on page 59.

4 MSDSplus: A report standard recommended by the Joint Article Management Promotion-consortium (JAMP) to be used for sharing information on chemical substances contained in products, for the purpose of supplementing information provided by the SDS. Some chemical substances contained in substances/preparations are required to be regulated under major relevant domestic and international laws and regulations and industry standards. MSDSplus is used by staff in charge of the management of information on these chemicals to provide information on them to customers.



JAMP MSDSplus

MSDSplus Information

Format Version		Ver.4.1
Substance List Version		4.050
GP (Global Portal) Sheet ID		9999999999999999
Sheet Reference Number		
Original	Issued Date	June 5, 2009
Revision	Latest Issued Date	March 15, 2016
	Revision Date	13

1. Product Information

Manufacturer Name		Nippon Soda Co., Ltd.
Product Name		Titabond T-160
Issuing Company Item Number	Alphanumeric	2587201
	Mother Language	2587201
Common Product Name		Ethyl acetate solution of polyester

2. Issuing company Information

Company Name	Alphanumeric	Nippon Soda Co., Ltd.
	Mother Language	日本曹達株式会社
Company ID	ID Organizer	
	Entity ID	
Issuing Department	Department Name	Advanced Polymers Section, Functional Chemicals Business Department, Chemicals Business Division
	Address	2-2-1, Ohtemachi, Chiyoda-ku, Tokyo
	Telephone Number	03-3245-6054
	FAX Number	03-3245-6057
	Email Address	
Department in Charge of Preparing AIS	Department Name	
	Telephone Number	
	Remarks	

3. Substance Information

Declaration Concerning Substance Information	0. This product contains NO substances in the relevant standard and to be notified

*1 "1 (or symbols that mean to be contained)" is marked if a substance listed in the relevant standard and to be notified is intentionally added.
"1 (or symbols that mean to be contained)" does not directly mean legally regulated. It depends on use and other conditions.
*2 Notified if there is additional information.
*3 For more information please refer to "The List of JAMP Declarable Substances: Instruction Manual."
*4 The information herein is given in good faith, but no warranty, express or implied, is made.
It is the user's responsibility and completeness of this information for his own particular use.

Substance Name	CAS Number	Max Concentration	Remarks *2	Relevant Standard *1									
				JP 01	JP 02	JP 03	EU 01	EU 02	EU 03	EU 04	EU 05	OT 01	IA 01	IA 02

4. Relevant Standard Information

Relevant Standard		Issued revised
JP01	Japanese Chemical Substances Control Law (Class I Specified Chemical Substances)	2014/03/19
JP02	Industrial Safety and Health Act (Substances Prohibited of Manufacturing etc.)	2007/09/07
JP03	Poisonous and Deleterious Substances Control Law (Specified Poisonous Substances)	2007/08/15
EU01	RoHS Directive	2011/65/EU
EU02	ELV Directive	2011/37/EU
EU03	CLP [Annex VI Table 3.2 CMR-cat. 1,2]	(EU)2015/1221
EU04	REACH Annex XVII [Except EU03]	(EU)2015/628
EU05	REACH SVHC on the Candidate List	2015/12/17
EU06	POPs Annex I	2012/06/20
OT01	ESIS PBT [Fulfilled]	2008-10-28
IA01	GADSL * 2013 GADSL Version 1.0	2015 GADSL Reference List Version 1.3
IA02	IEC62474/JIG	IEC62474 D10.00

Example of MSDSplus

VOICE

To ensure distribution safety

Takaoka Plant handles hazardous and toxic products, products containing high-pressure gas, dangerous substances, and poisonous and deleterious substances. It is therefore important for us to ensure safety while transporting these products. Our Disaster Prevention Council has established a system to promote cooperation with transportation companies. We provide them with education on how to handle hazardous substances and their physical properties and conduct emergency communication drills in order to be able to respond to accidents promptly and effectively. We also conduct periodic quality inspections. We thus collaborate with transportation companies to ensure distribution safety.

Hiroyuki Kawahara
Quality Assurance Sec.
RC Administration Dept.
Takaoka Plant

Chemicals and Product Safety

Giving due consideration to possible safety, health and the environmental hazards that may be caused by chemicals and products, the Nippon Soda Group complies with domestic laws and regulations, international standards, treaties and the like as well as with social norms and expectations so that we can earn greater trust from customers and the general public.

Management approach

The Nippon Soda Group complies with domestic laws and regulations, international standards, treaties and the like as well as with social norms and expectations so that we can increase the trust of customers and the general public.

CSR activities to protect the corporate value POINT

1. Management of the safety of chemicals and products with a chemical substance control system
2. Safety education on chemicals and products

Management of chemicals

Agenda 21, an action plan for achieving sustainable development, was adopted back in 1992 at the Earth Summit. In the action plan, the environmentally sound management of toxic chemicals was defined. In 2002, the UNEP (United Nations Environment Programme) Governing Council determined that there was a need for a strategic approach to the international management of chemicals and signatories to an agreement concluded at the World Summit on Sustainable Development (WSSD) pledged to “use and produce chemicals in ways that minimize significant adverse effects on human health and the environment by 2020.”

In 2006, the Strategic Approach to International Chemicals Management (SAICM) was adopted by the International Conference on Chemicals Management (ICCM). As these developments show, conditions surrounding the international management of chemicals have been changing over time.

In line with these changes, the Nippon Soda Group too is placing greater emphasis on its chemicals management.

Specific actions for the management of chemicals

To ensure the proper management of chemicals, the Nippon Soda Group takes actions as follows:

Actions to comply with laws and regulations regarding the management of chemicals

In handling and using chemicals in the manufacture and marketing of products, we are required to comply with numerous laws, regulations and other requirements, including the Poisonous and Deleterious Substances Control Act, the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., the Industrial Safety and Health Act, the Agricultural Chemicals Control Act, and REACH[1].

To be well prepared for meeting these requirements, the Nippon Soda Group has established a system to assess the hazards of all chemicals used in the pre-manufacturing phase of production and to keep abreast of relevant laws, regulations and other requirements. This system also applied to R&D. Please refer to the “Procedures for registering new chemical substances” on page 60.

In FY 2016, we submitted various notifications under the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., the Industrial Safety and Health Act, and the Poisonous and Deleterious Substances Control Act; and submitted registrations and notifications under new chemical substances regulations in South Korea, Taiwan, China and other countries.

In June 2016, the revised Industrial Safety and Health Act became effective, requiring us to perform risk assessments of chemical substances. We participated in seminars on the amendment of the Act and other relevant issues to collect information and developed our method for chemical substance risk assessment. We provided explanatory sessions on this new method along with other relevant tools to offices concerned and group companies during January through March. Offices and group companies will develop and implement their own execution plan.

Preparation and revision of SDS[2] and product labels to meet GHS[3] requirements

We prepare SDS and product labels according to the GHS requirements.

Because the GHS is adopted globally, the Nippon Soda Group prepares SDS and product labels used in Japan, Europe, the U.S., China, Taiwan, South Korea, Southeast Asia, Turkey and other countries in such a way as to meet the GHS requirements.

Since June 2015, chemical mixtures in EU, substances in Turkey, substances and mixtures in the U.S. have been required to comply with the GHS requirements. In FY 2016, to meet the requirements in these countries and also in Southeast Asia, we prepared SDS and labels according to the GHS requirements.

Strengthening the management of chemical substances (poisonous and deleterious substances, new chemicals, etc.) by adopting a new chemical substance control system

ExESS, the SDS and Yellow Card preparation and management system adopted in FY 2015, has useful functions, including the automatic identification of the GHS classification category and applicable laws and regulations. The system has been used for preparing SDS in Japanese and Yellow Cards. We also developed SDS specifications for overseas use, such as in the EU and China.

We started the operation of the LOLI Database[4], an international chemical regulatory database, on which an explanatory session was held in FY 2015. The database contains lists from around the world of chemicals across various categories. These can be used to perform regulatory checks on chemicals due to be handled and to prepare SDS.

Safety education on chemicals and other products

1 January 18, February 2, March 4 2016 at the Head Office

Explanation session on the risk assessment of chemical substances under the revised Industrial Safety and Health Act

2 May 11 and 14, 2015 at the Head Office

Education on chemical substances regulations for new/transferred employees

3 February 2, 3, 24 and 26, and March 2 and 3 at the Head Office

Education on revisions to the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., the Industrial Safety and Health Act, and the Poisonous and Deleterious Substances Control Act, as well as overseas trends in relevant laws and regulations

Improving regular training programs on chemical substance control (poisonous and deleterious substances, new chemicals, etc.)

We provide employees who handle chemical substances with training on how to comply with laws and regulations regarding the management of chemicals. Training provided in FY 2016 included training for new/transferred employees (May), education on the delivery of products and samples (October), education on chemical substances regulations in Taiwan (December), and education on revisions to the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., the Industrial Safety and Health Act, the Poisonous and Deleterious Substances Control Act and other Japanese laws and regulations and overseas trends in revisions to laws (February and March).

Communication of safety information on chemicals

The Nippon Soda Group participates in the Global Product Strategy (GPS) and the Japan Initiative of Product Stewardship (JIPS). JIPS was launched by the Japan Chemical Industry Association (JCIA) in May 2009 as a new voluntary initiative of the chemical industry to strengthen chemicals management based on risk assessments and risk management that takes supply chains into account. The basic concept of JIPS is aligned with the Product Stewardship (PS)/GPS initiative of the International Council of Chemical Associations (ICCA). The Nippon Soda Group has prepared two safety summary reports—on hydroxypropyl cellulose and acetoxyazetidine—which have been registered on the ICCA portal page and made publicly available.

In FY 2016, we participated in a consortium meeting of the JCIA to prepare safety summary reports on caustic soda, hydrochloric acid, chlorine and sodium hypochlorite. We share information with member companies to promote the preparation of highly accurate safety summary reports. We have newly registered safety summary reports on caustic soda and hydrochloric acid on the ICCA portal page to make them publicly available. We are planning to continue to participate in the consortium's activities.

1 REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) is a European Union regulation that requires companies that manufacture or import chemical substances in the amount of one ton or more per year into the EU 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.

2 SDS (safety data sheet)
An SDS is a document that contains information on the safe handling of chemicals and raw materials that contain chemicals.

3 GHS stand for Globally Harmonized System of Classification and Labelling of Chemicals. GHS is a global system for standardizing the classification and labeling (product labels and SDS) of chemicals according to their hazards.

4 LOLI (List Of Lists)
An international regulatory database of a collection of lists of chemical substances

VOICE

Education on laws and regulations provided during worksite meetings

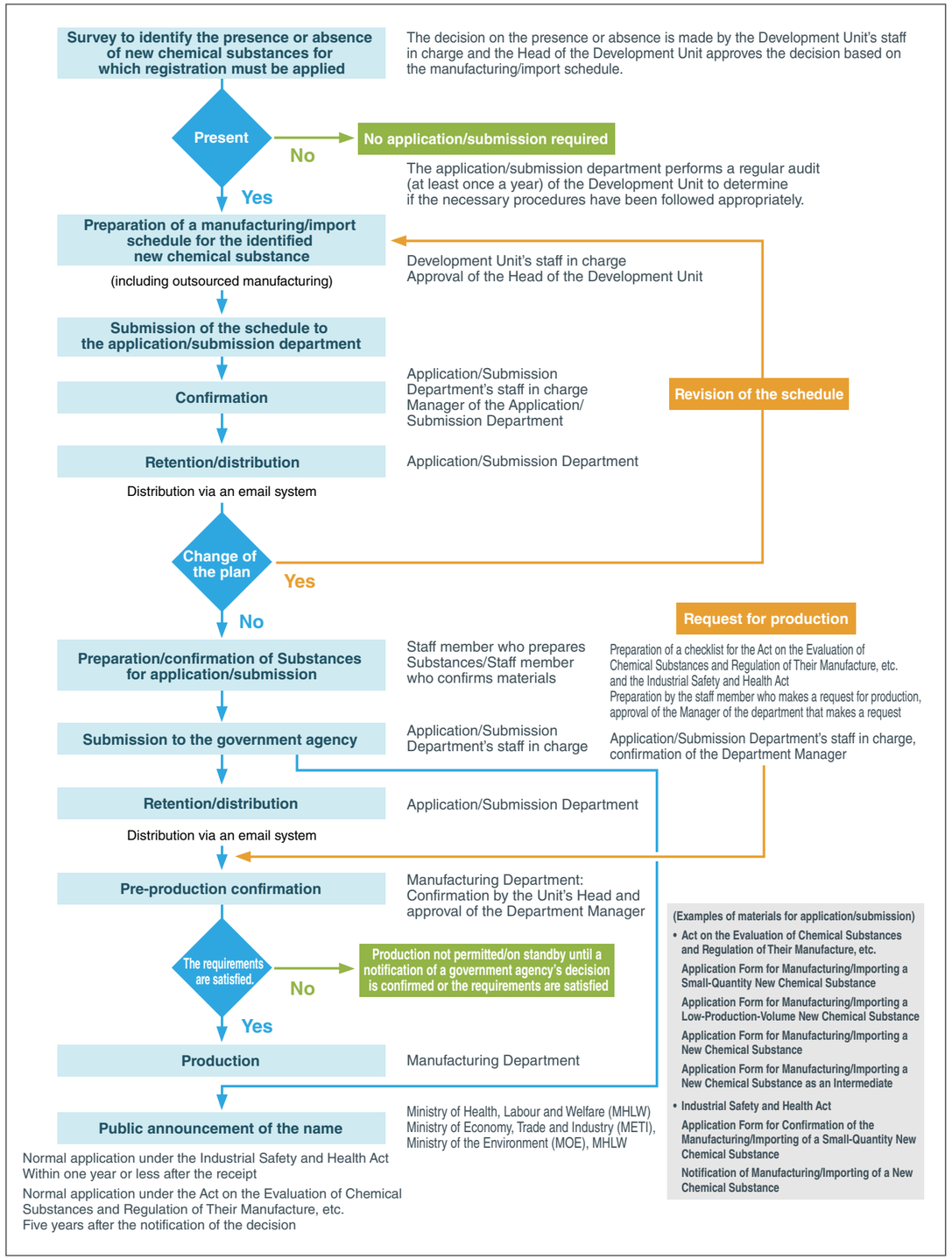
At Nihongi Plant, each department holds a monthly worksite meeting attended by all its members to give them an opportunity to communicate with each other. Participants discuss health and safety issues at work and are periodically provided with education on laws and regulations (Poisonous and Deleterious Substances Control Act, Food Sanitation Act, Pharmaceuticals and Medical Devices Law, Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. and others) related to chemical substances dealt with at their department.

Products manufactured at Nihongi Plant are distributed to various customers in Japan and abroad. Laws and regulations governing these products have become more and more strict every year and statutory interpretation has also become stricter.

We provide employees with education on laws and regulations, including statutory interpretation, in order to strengthen the management of chemicals in response to increasingly restrictive regulations for chemical substances as well as to improve the awareness level of employees.

Toshikatsu Hayashi
Quality Assurance Team
RC Administration Department
Nihongi Plant

Procedures for registering new chemical substances



Community Involvement & Development/Social Dialogue/ Fair Operating Practices/Compliance

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

Management approach

The Nippon Soda Group researches, develops and manufactures products using chemicals as their ingredients and transports them. These products are used, consumed and disposed of by stakeholders. If we do not provide them with the correct information, they cannot use, consume and dispose of the products in an environmentally friendly manner. We believe that, through dialogue, we can not only provide users with information on ingredients, manufacturing, product distribution, disposal methods and other product-related issues but also convey our approach to safety and environmental protection.

CSR activities to protect the corporate value **POINT**

1. Compliance with laws and regulations with a legal compliance system
2. Organization of local gatherings (risk communication); Transparency and accountability practice

Community involvement and development

We participate in community and volunteer activities in areas where our company's offices are located.

Cleanup activities for local communities

Nippon Soda conducts cleanup activities in the vicinity of its business sites on a regular basis.

[Table1] Frequency of cleanup activities for local communities

FY	Nihongi Plant	Takaoka Plant	Mizushima Plant	Chiba Plant Chiba Research Center	Odawara Research Center	Total
2014	0	2	2	3	—	7
2015	1	2	2	3	—	8
2016	2	2	1	2	—	7

Nihongi Plant
Eco-walk
(April 26, 2015)

Takaoka Plant
(October 21, 2015)

Mizushima Plant
Cleanup of Takashima Road
(with participation of
20 employees)
(May 22, 2015)

Chiba Plant and
Research Center
(February 10, 2016)

Participation in a local festival

On August 24, 2015, the Manager and four staff members of Nihongi Plant participated in the Fujisawa Fall Festival organized by a shrine in the Fujisawa District. Other offices also participated in many local festivals.

Fujisawa Fall Festival, August 24, 2015

Involvement in hands-on learning activities

Nihongi Plant provided a hands-on learning experience to six students of Nakago Junior High School in Joetsu City.

Hands-on learning, August 3 to 7, 2015

Takaoka Plant provided a hands-on learning experience to students of Takaoka Industrial Arts High School and Tonami Technical High School, both in Toyama Prefecture, as well as eight students from Seibi Elementary School in Takaoka City over the period from July to November 2015.

Students from Keiyo Elementary School in Ichihara City participating in a plant tour, July 17, 2015

Chiba Plant invited 84 students from Keiyo Elementary School in Ichihara City to tour the plant on July 17, 2015. On March 28, 2016, a plant tour for Nippon Soda's employees and their children was conducted with 30 participants.

Participation in local events

Six employees from Nihongi Plant participated in the Science Festival for Children held at Waku-Waku Land in Myoko City on July 20, 2015.

Science Festival for Children, July 20, 2015

An employee from Mizushima Plant participated in the Fureai Mochi-tsuki Taikai (Mochi Pounding Festival) held on December 13, 2015 in the Honjo school district.

Fureai Mochi-tsuki Taikai, December 13, 2015

Another employee participated in the Grand Golf Tournament held on November 21, 2015 in the Honjo school district.

Employees from Chiba Plant participated in nine local festivals, including the Wakamiya Hachiman Shrine Grand Festival: 10 participated in the Goi Rinkai Matsuri (Goi Coast Festival) held on June 16, 2015 (for details, see the "Chiba Plant" section on page 75); two participated in the Kazusa Ichihara Kokufu Festival held on October 24, 2015; and five participated in the Konkatsu in Kombinat (Matchmaking in the Industrial Complex event) on November 7, 2015.

Social dialogue

Dissemination of information on CSR activities

The Nippon Soda Group disseminates information on its CSR activities by the following means:

- The CSR Report is available to anybody in the form of a brochure or via our website.
- Reports on activities and plans for activities are submitted to the Japan Chemical Industry Association and distributed at local and other meetings.

In FY 2016, the 8th Responsible Care Local Dialogue in Toyama/Takaoka was held on February 26, 2016 at Takaoka Shoko (Commerce and Industry) Building. Twelve employees from Takaoka Plant participated. The total number of participants in the dialogue was 120. (For details, see the "Takaoka Plant" section on page 71.)

- Information on our activities is provided during tours of our offices and other gatherings.
- Takaoka Plant held a "Thanking Local Residents" event at its gymnasium on November 8, 2015, which was attended by 210 local residents. Programs in the event included a plant tour, an exhibition of photos of RC activities, free copies of the CSR Report, an introduction to our products, and chemistry experiments for children.

Thanking Local Residents at Takaoka Plant
November 8, 2015

External communication

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

❶ Communication between plants and local residents (the rate of implementation of the process to address official complaints from local communities)

Takaoka Plant conducts environmental monitoring in cooperation with 12 residents representing six local residents' associations in the vicinity of the plant. In FY 2016, we received three reports, all of which have been addressed appropriately. (The rate of responding to reports by Takaoka Plant and all the other offices was 100%.)

Report 1 Report dated May 7, 2015, requesting the cleaning of the gutter between Nippon Soda Takaoka Plant and Sanwa Unyu Co., Ltd

[Measures and actions implemented]

The gutter was filled with fallen cedar leaves. In the middle of May, the gutter was cleaned. Measures to improve the environment around the plant are scheduled for June, when we will clean a wider area. Information about the cleaning in June was provided on May 14 to environmental monitors and their approval was obtained.

Report 2 A report dated July 3, 2015, recommending that a sign installed on the right side of Parking Lot No. 4 of Takaoka Plant be replaced with one made from a more hard-wearing material as the current sign was tilting and its surface had deteriorated.

[Measures and actions implemented]

As it was severely damaged, it was decided to replace the sign with a new one by the end of July. This decision was communicated on July 9 to environmental monitors and was approved. On July 31, the sign was replaced.

Report 3 A report dated September 4, 2015, saying that there was a slight odor of an agricultural chemical at around 8:00 and 19:00 on Friday, August 28, but it was not reported because the odor lasted only for a few minutes. Confirmation was requested as to whether there was any abnormality in the plant's operation.

[Measures and actions implemented]

In response to the report, we conducted an investigation at the plant but detected no leaking odors or other problems, and could not identify the source of the reported odor. On September 8, the Vice Chief of the General Affairs Department visited an environmental monitor's house to report this result and convey our determination to continue our efforts to protect the environment and seek the cooperation of the environmental monitors. The report was accepted.

❷ External communication events at major sites (4 plants and 2 research centers of Nippon Soda)

[Table 2] External communication events

FY	Local gatherings	Tours of plants and research centers	Local dialogue meeting of JCIA RC Committee	Others
2014	40	92	2	242
2015	44	64	3	225
2016	47	78	5	254

Note) "Others" include the third-party verification of CSR, memorial services for animals, firefighting-related meetings, high-pressure gas-related meetings, the Science Festival for Children, and regional exchange events.

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

[Table 3] Signing of and support for economic, environmental and other initiatives, social charters, and principles

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

❹ Membership categories at advocacy organizations and institutions in Japan and abroad

[Table 4] Membership categories at advocacy organizations and institutions in Japan and abroad

Advocacy institutions	Applicable countries	Membership	Reference page
ICCA (International Council of Chemical Associations)	Worldwide	Participating as a corporate member of JCIA	p. 59
Japan Chemical Industry Association (JCIA)	Japan	Corporate member	p. 59
GPS (Global Product Strategy)	Worldwide	Participating as a corporate member of JCIA	p. 59
JIPS (Japan Initiative of Product Stewardship)	Japan	Participating as a corporate member of JCIA	p. 59
Japan Soda Industry Association (JSIA)	Japan	Member	—

Stakeholder engagement

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

Reviewed on November 2, 2012
Rated on January 15, 2013 Rank A (the best)

❷ 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."

❸ Diagnosis of disaster prevention capability by Sompo Japan Nipponkoa Risk Management Inc.

Aizu Plant of Nisso Metallochemical Co., Ltd.
May 28 and 29, 2015

On-site diagnosis (May 29, 2015)

Closing (May 29, 2015)

Iwaki Plant, Nisso Fine Co., Ltd.
June 6, 2015

On-site diagnosis (June 6, 2015)

Closing (June 6, 2015)

Takaoka Plant
June 11 and 12, 2015

On-site diagnosis
(June 11, 2015)

Closing
(June 12, 2015)

Chiba Plant, Nisso Metallochemical Co., Ltd.
July 28, 2015

On-site diagnosis
(July 28, 2015)

Closing
(July 28, 2015)

Chiba Plant
June 23, 2015

On-site diagnosis
(June 23, 2015)

Closing
(June 23, 2015)

Nihongi Plant
November 17 and 18, 2015

On-site diagnosis
(November 17, 2015)

Closing
(November 18, 2015)

Gunma Plant and Takasaki Plant, Shinfuji Kaseiyaku Co., Ltd.
July 9, 2015

On-site diagnosis
(July 9, 2015)

Closing
(July 9, 2015)

④ Experts dialogue on material issues (priority issues) that should be addressed by the Nippon Soda Group

On December 8, 2015, an experts dialogue was held at a meeting room of the Head Office. For a summary of the meeting, please see page 11. For details, please see pages 13 and 14.

⑤ Occupational health and safety survey by Sompo Japan Nipponkoa Risk Management Inc.
① Chiba Plant January 22, 2016

As part of the stakeholder engagement effort, the plant requested the Global Business Department of Sompo Japan Nipponkoa Risk Management Inc. to conduct a survey on occupational accident prevention.
(See page 51.)

⑥ Verification of the “CSR Report 2015” by the RC Verification Center of the Japan Chemical Industry Association
Head Office: June 8 and 15, 2015
Mizushima Plant: June 9, 2015

⑦ Third-party opinion from an academic expert

On June 16, 2016, we sought a third-party opinion from an academic expert to boost the objectivity of the CSR Report and identify new issues related to CSR. For details, please see page 95.

Relations with employees

The Nippon Soda Group offers opportunities to employees who have made achievements in CSR activities to present their achievement and receive an award.

① Presentation of successful cases

The Nippon Soda Group offers employees opportunities to present their successes in the areas of environmental protection, energy saving, productivity improvement, distribution safety, process safety & disaster prevention, occupational safety & health and others. At each worksite, employees who have made particularly outstanding achievements are selected to present their accomplishments to company executives and representatives of other business sites at an event known as the Company-wide Successful Achievement Presentation Meeting.

Presentation meeting

In FY 2016, the 36th Company-wide Successful Achievement Presentation Meeting was held at Chiba Plant on Friday, November 27, with 12 presentations made. The event was filmed, with both video and audio streamed in real time to all offices. The number of web-based participants was 162 in total, consisting of nine at the Head Office, 80 at Nihongi Plant, 40 at Takaoka Plant, 23 at Mizushima Plant, and 10 at Odawara Research Center. At the presentation site at Chiba Plant, about 73 participants, attended in person, including those from Chiba Research Center. At the end of the meeting, Production & Technology Division Manager Higuchi commented on the presentations and offered a token of appreciation to each presenter.

Presenters, assistants, organizers

Presentation themes/presenters (assistant’s name in brackets)/sections

① Improvement of the method for managing packaging materials	Fine Chemical Department, Nihongi Plant	Sakuyoshi Hirai (Yuta Yamada), HPC Section
② Energy cost reduction by reviewing the temperature of electrolysis cells	Industrial Chemicals Section, Takaoka Plant	Takahiro Otsuka (Keisuke Noto), Industrial Chemicals Unit
③ Efforts to save energy by reducing electricity consumption	Manufacturing Section, Mizushima Plant	Shunya Okazaki (Hidenobu Fujiwara), Maintenance Engineering G
④ Reduction of operation standby time by installing filtrate storage tank fuller	2nd Manufacturing Department, Chiba Plant	Makoto Minokawa (Yusuke Kobayashi), DC Section
⑤ Improvement of BPS process (new BPS manufacturing)	2nd Production Department, Aizu Plant, Nisso Metallochemical Co., Ltd.	Junichi Torimura (Kazuhito Sato), BPS Section
⑥ Improvement of productivity by reducing sodium methylate (M-L) reaction time	2nd Industrial Chemicals Department, Nihongi Plant	Satoru Maruyama (Tsuyoshi Hosokawa), Metallic Sodium Section
⑦ 5% increase of the production of CPMA50	2nd Organic Products Department, Takaoka Plant	Yukio Kurogoshi (Koji Mizukoshi), 2nd Organic Products Section
⑧ Improvement of the mixer for PB base and change in its operating conditions to ensure stable and safe production	1st Manufacturing Department, Chiba Plant	Mitsuo Kaneda (Hidemi Hosoi), FC1 Section
⑨ Automation of pH measurement of Tank No. 2 for HPC D Line gelation	Engineering Department, Nihongi Plant	Tatsuya Maruyama (Makoto Sato), Instrument & Electric Team
⑩ Measures to address abnormal wastewater discharge	Takaoka Plant	Takuya Maeda (Naoto Kawahara), NBL
⑪ Improvement and safety measures for the filling method for Titabond T-200E and improvement of the efficiency of its filling	1st Manufacturing Department, Chiba Plant	Yosuke Asai (Shigeyoshi Suzuki), FC2 Section
⑫ Prevention of decrease in the feeding flow rate of hypo-emulsion	Specialty Chemicals Department, Nihongi Plant	Akira Okada (Hideo Shyori), Specialty Chemicals Section

Relationship with group companies

1. The Head Office of Nippon Soda conducts CSR audits of offices of domestic manufacturing group companies, Nisso Metallochemical Co., Ltd., Nisso Fine Co., Ltd. and Shinfuji Kaseiyaku Co., Ltd. every other year.
2. In the period from October 22 to December 24, 2015, the Head Office of Nippon Soda conducted CSR audits of all offices (13) of non-manufacturing group companies, Sanwa Soko Co., Ltd. and Sanso Unyu Co., Ltd.
3. We provided Synergy Manager Tomomi Sawada from ALKALINE SAS (France) with training on safety management from November 30 to December 4, 2015 at the Head Office of Nippon Soda and Nihongi Plant. The objective of the training was to introduce the concept of “Nisso Safety” and how to practice it.
4. A meeting to discuss efforts to improve RC performance with Assistant Plant Manager Naoki Norimatsu from Nisso Namhae Agro Co., Ltd. (Korea) was held on February 4, 2016 at the Head Office of Nippon Soda.

Ms. Sawada (right) asking questions regarding KY
December 2, 2015

Assistant Plant Manager Naoki Norimatsu (left)
February 4, 2016

Fair operating practices

We operate a Compliance Committee to implement fair operating practices and ensure corporate activities are conducted in compliance with laws, regulations and corporate ethics by fully familiarizing all employees with the Nippon Soda Group Code of Conduct. We also use the internal reporting system appropriately. (See page 30.)

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

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

Prevention of corrupt practices

The Nippon Soda Group Code of Conduct defines proper accounting, business entertainment and gifts, prevention of bribery of foreign public officials, and other issues related to the prevention of corrupt practices and bribery so as to ensure all employees are well informed of these issues.

Fair competition

The Nippon Soda Group Code of Conduct defines compliance with the Antimonopoly Act, the prevention of unfair competition, and other rules to prevent involvement in and assistance for anti-competitive activities so as to ensure all employees are well informed of these issues.

Compliance

The internal control system

The Compliance Committee, which reports directly to the President, was established as of May 1, 2003 to help employees to become well informed of the Nippon Soda Group Code of Conduct and thereby ensure corporate activities are conducted in compliance with laws and regulations and corporate ethics, and to use the internal reporting system appropriately. (See page 30.)

Implementation of compliance practices

The requirements that allow the Nisso Group to conduct sound business activities are specified in the Nippon Soda Group Code of Conduct, which is distributed to the management and all employees of Nippon Soda and its consolidated companies. In addition, training based on the Code of Conduct to raise awareness of the importance of complying with laws and regulations is regularly provided. 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. An online education program on the Nippon Soda Group Code of Conduct targeting all executives, employees and temporary employees of Nippon Soda Co., Ltd., Nisso Chemical Analysis Service, Joetsu Nisso Chemical Co., Ltd. and Nisso BASF Agro Co., Ltd. was conducted from January 15 to February 15. A total of about 1,400 participants undertook this online program on their personal computers.

Compliance Consultation Office

A consultation office is available where a Nippon Soda Group employee who has identified any violation can consult directly with the Compliance Committee or a legal advisor.

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

No relevant events were reported.

Contribution to local employment

The ratio of the standard minimum wage to the local (prefectural) minimum wage at different worksites in FY 2016 is as shown below:

[Table 5] Comparison of the standard minimum wage to the local minimum wage in FY 2016

Site	Location (prefecture)	Local minimum wage (yen/h)	Our company's standard minimum wage* (yen/h)	Comparison with the minimum wage (%)
Head Office	Tokyo	907	1,090	120.2
Odawara Research Center	Kanagawa	905	1,090	120.4
Chiba Research Center	Chiba	817	1,075	131.6
Nihongi Plant	Niigata	731	1,075	147.1
Takaoka Plant	Toyama	746	1,075	144.1
Mizushima Plant	Okayama	735	1,075	146.3
Chiba Plant	Chiba	817	1,075	131.6

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

VOICE

Harmonious relationship with local communities

Mizushima Plant is located close to residential areas. We therefore consider it important to build a close relationship with residents in the local community and gain their understanding of our business activities.

To strengthen our relationship, we participate in local seasonal events, such as cherry blossom viewing, the Bon festival dance, fall festivals, and *mochi* pounding festivals. In our efforts to maintain a harmonious relationship with the local community, we also participate in local cleaning activities for the outdoor environment with the hope of keeping the city beautiful and making ourselves useful.

We will continue our efforts to ensure the safe and stable operation of our business activities on a daily basis so that local residents can live without anxiety and we can contribute to the development of the local community.

Toshiaki Togawa
Management Section
Mizushima Plant

Nihongi Plant

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

Major products manufactured

Caustic potash, alcoholate, HPC, Faropenem sodium, Mospilan, Nissorun, Hi-chlon, HIDION, etc.

Number of employees

329 (as of the end of March 2016)
(Including 69 contract employees, reemployed employees and Joetsu Nisso Chemical's employees)

Number of employees of affiliates

172 (as of the end of March 2016)

ISO 14001: Certified in March 2000
ISO 9001: Certified in August 1995
OHSAS 18001: Certified in April 2009

Trust built by preventing the standardization of deviations

Satoshi Tsukamura
Executive Officer
Plant Manager

Nihongi Plant is the birthplace of Nisso. The plant operation started 96 years ago amid the rich natural environment at the base of Mount Myoko, one of the "100 famous Japanese mountains." We have gained the understanding and support of local communities and stakeholders through various exchange programs. Recently, we started hiring women for manufacturing operations. We are also participating in a project to create a new community, in response to the launch of the Hokuriku Shinkansen line and Echigo Tokimeki Railway.

As in previous years, concerted efforts by all employees will be made to achieve the goals of CSR activities this year with the aim of contributing to society through our business activities. In doing so, the plant makes it a priority objective to gain trust in the three areas listed below. This year, our particular focus is on preventing the standardization of deviations, meaning that we never allow what should not be allowed, no matter how difficult this is.

☆Safety: Trust of employees (zero accidents)
☆Environment: Trust of local communities (zero environmental abnormalities)
☆Quality: Trust of customers (zero customer complaints)

Our company and plant will celebrate its 100th anniversary in 2020. Just as we have made tremendous progress over the last century, we will continue to advance over the next 100 years.

TOPICS

Education on "visible safety activities" for logistics operators

As an effort to ensure distribution safety, we hold meetings of the Nisso Disaster Prevention Council's Logistics Department four times a year and provide education on distribution safety to transportation firms twice a year. This fiscal year, we emphasized "visible safety activities" in educational programs for logistics operators. Such programs included: an emergency drill on initial response and emergency communication on the assumption of a hydrochloric acid spill due to a traffic accident, the introduction of actual cases of accidents associated with poisonous substances, and a chemistry demonstration to show the risk level of substances that our plant deals with.

Feedback on our programs included the comment, "It was helpful because we were able to provide information on actual cases to other employees," indicating that the awareness of employees regarding safety issues has been improved. The plant will continue its efforts to earn and maintain trust in the three aspects of safety (zero accidents), environment (zero environmental abnormalities) and quality (zero customer complaints).

Plant environment data

Note: Figures in parentheses show the change compared with the FY 2015 result. + indicates an increase and ▲ a decrease.

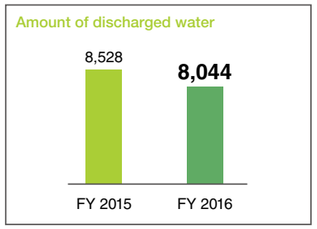
Unit: t/year (amount of discharged water: 1,000 t/year; CO_2: 10,000 t/year)

Actual environment data in FY 2016	Emissions to water			Emissions to air				Final disposal as landfill
	Amount of discharged water	BOD	COD	CO_2	NO_x	SO_x	Soot and dust	
	8,044 (▲484)	15.7 (▲2.4)	—	6.1 (▲0.3)	16.4 (▲9.8)	5.9 (0)	6.2 (+0.1)	46.6 (▲24.0)

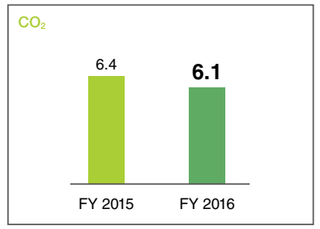
Unit: t/year

Emissions of PRTR-designated substances in FY 2016	Substance name	Amount emission		Amount transferred
		Air	Water	
	Toluene	21.57 (+1.53)	0.00 (0.00)	0.00 (0.00)
	Fluorine	0.00 (0.00)	0.00 (0.00)	2.53 (+0.30)
	Chloroform	2.73 (+0.05)	0.00 (0.00)	0.00 (0.00)
	Designated substances: 15 substances Total emissions: 25.82 t Total amount transferred: 3.78 t			

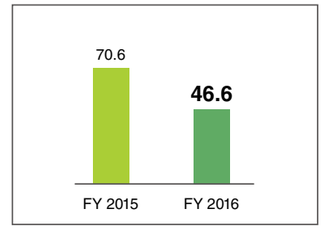
Emissions to water (1,000 t)



Emissions to air (10,000 t)



Final disposal as landfill (t)



On-site reports

Promotion of "Fall Prevention Project Nihongi"

A lost worktime injury due to a fall was reported on January 25, 2013. The incident involved an employee en route to a workplace slipping on a road inside the premises. The temperature recorded on the day in the area in front of the Security Center at the entrance to the plant was −2°C and snow on the surface of the road had melted and refrozen, causing the employee to slip and fall, thereby sustaining an injury. Since 1975, five cases of lost worktime injuries due to a fall occurred in winter. To prevent slip and fall accidents specific to the winter season, we have taken the following measures:

1) Installation of three signboards to warn employees about the risks of slip and fall accidents—one in a location where such an accident has occurred, one midpoint of a recommended commuting route, and one near the central locker room;
2) Distribution to all employees of removable nonslip pads to be attached to the soles of their shoes;
3) Broadcasting warnings from early in the morning when road surfaces are frozen to caution employees to be careful not to slip and to avoid walking with their hands in their pockets; and
4) On the 16th of every month, which is disaster prevention day, we include a reminder in correspondence sent to employees to take care against slipping and falling when the temperature is low and road surfaces are frozen, or in other bad weather conditions.

Since January 25, 2013, we have received no reports of slip and fall accidents specific to the winter season. We have observed some employees still walking with their hands in their pockets. We will continue our efforts to prevent slip and fall accidents by issuing cautions and encouraging employees to remain alert and prepared.

Takaoka Plant

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

Major products manufactured

Caustic soda, hydrochloric acid, TODI, phosphorus chloride, Topsin M, STM, pesticide formulation products, etc.

Number of employees

330 (as of the end of March 2016)
(Including 19 employees of Nisso BASF Agro Co., Ltd., a manufacturing joint venture)

Number of employees of affiliates

175 (as of the end of March 2016)

ISO 14001: Certified in November 2000
ISO 9001: Certified in June 1995
OHSAS 18001: Certified in November 2005

Future development based on proposals made by the plant, with the highest priority on achieving zero accidents and disasters

Izumi Takano
Executive Officer
Plant Manager

Takaoka Plant is located beside the Oyabe river, which runs into the sea at Toyama Bay, an area endowed with a rich natural environment. The plant has a history and tradition of cooperation with residents in adjacent communities going back to its foundation in 1934. This year, we celebrate the plant's 81st birthday.

We have an important mission to ensure the safety and security of local residents and of the environment of Toyama Bay, which is recognized as one of the most beautiful bays in the world.

With a focus on soda electrolysis technology, which is the basis of the chemical industry, we manufacture basic chemicals and other chemical products essential to modern society, such as functional chemicals and agrochemicals. In these business activities, our CSR efforts have been focused not only on "coexistence and co-prosperity" with local suppliers but also on contributing to local communities and society at large.

Last year, the construction of facilities for solvent conversion at Takaoka Plant was completed in order to reduce the consumption of solvents with large environmental impacts. Plant facilities that consume large amounts of electricity were also renovated to reduce energy consumption and environmental impacts. To ensure process safety and disaster prevention, the plant has been renovating aging facilities and large tanks one by one.

We also make broad-ranging efforts to solicit feedback from local residents on the occasions of plant tours and information sharing meetings at our "Thanking Local Residents" events as well as via the environmental monitoring system and exchange meetings with local residents. Based on opinions thus collected, we improve our CSR activities to ensure our plant remains both safe and trusted.

In accordance with this year's plant motto of "Value up TAKAOKA," we are proactively providing employees with safety education, conducting emergency drills, implementing energy saving measures, and recycling industrial waste with the aim of improving the value contributed by all people and goods at the plant. Through these efforts, we ensure the safety not only of workers but also local residents as well as demonstrating our ongoing reliability, thus enabling our stakeholders to recognize our contribution to local communities and society.

TOPICS

The 8th Responsible Care Local Dialogue in Toyama/Takaoka

On February 26, 2016, we organized the 8th Responsible Care Local Dialogue in Toyama/Takaoka as the organizing company, working on behalf of the six member companies in Toyama Prefecture of the Japan Chemical Industry Association's RC Committee. The Dialogue was attended by 120 people, with the majority being neighboring residents and the balance made up of government agency representatives and educators.

The RC Local Dialogue is held once every two years in Toyama for the purpose of introducing daily RC activities conducted at chemical plants to promote mutual understanding and "coexistence and co-prosperity" between companies and local residents. At the 8th Dialogue, we introduced activities undertaken by three member companies in Takaoka and provided detailed answers to questions from participants. We believe that participants understood the efforts made by companies to maintain harmonious relationships with local residents. Prior to the Local Dialogue, we offered a tour of Takaoka Plant, the organizer of the event.

Due to time constraints, the discussion we had may have been limited. But it was meaningful enough for us to use the results in planning our future business activities. We will continue to implement RC activities with a focus on environmental protection, process safety and disaster prevention, and product safety to give local residents peace of mind.

Plant environment data

Note: Figures in parentheses show the change compared with the FY 2015 result. + indicates an increase and ▲ a decrease.

Unit: t/year (amount of discharged water: 1,000 t/year; CO_2: 10,000 t/year)

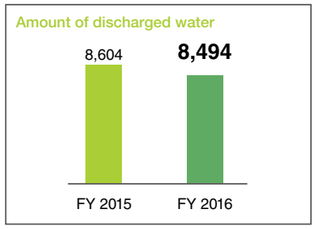
Actual environment data in FY 2016	Emissions to water			Emissions to air				Final disposal as landfill
	Amount of discharged water	BOD	COD	CO_2	NO_x	SO_x	Soot and dust	
	8,494 (▲110)	54.5 (+0.4)	—	12.0 (▲0.8)	26.6 (▲2.0)	78.0 (▲20.4)	1.8 (▲3.6)	172.0 (+59.0)

Unit: t/year

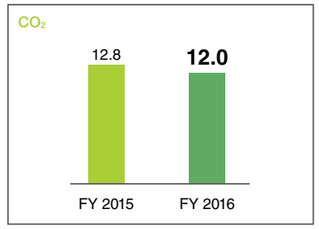
Emissions of PRTR-designated substances in FY 2016	Substance name	Amount emission		Amount transferred
		Air	Water	
	Acetonitrile	0.00 (▲0.90)	0.00 (0.00)	0.00 (+2.00)
	Toluene	0.24 (▲1.57)	0.00 (0.00)	47.69 (▲4.40)
	Chlorobenzene	12.59 (▲1.03)	1.74 (▲0.26)	1.53 (▲0.24)
	(Reference) Chloroform	0.20	0.01	97.49
	Designated substances: 22 substances Total emissions: 19.28 t Total amount transferred: 161.85 t			

* Acetonitrile will be excluded in the assessment because the production of products using acetonitrile has been discontinued. Instead of acetonitrile, chloroform will be included in data for the next and subsequent fiscal years.

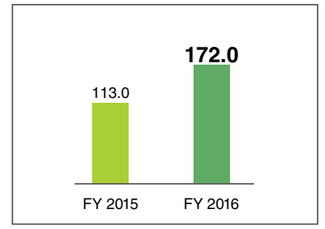
Emissions to water (1,000 t)



Emissions to air (10,000 t)



Final disposal as landfill (t)



On-site reports

Completion of work for TBT* organic titanium monomer solvent conversion

The construction of facilities for TBT organic titanium monomer solvent conversion at Takaoka Plant has been completed. We have traditionally used chlorine-based solvents for organic titanium. Because chlorine-based solvents have been reported to have substantial impacts on both humans and the environment, we have used them in manufacturing under strict control in compliance with relevant laws and regulations. However, in response to both internal and external requests, we started planning a conversion to non-chlorine-based solvents. In April 2014, we launched a working group to discuss the plan and, in September, we established a project to create a detailed design.

Because the new solvent is categorized as a hazardous material under the Fire Defense Law, we needed to newly register our plant as a hazardous materials facility. In addition, we had to renovate facilities under the instruction of the regulatory agency (the Fire Defense Agency), which took longer than anticipated. As a result, the completion of the construction project was somewhat delayed. During trial operation, we also encountered many unexpected problems. However, thanks to the untiring efforts and improvements made by those involved—and their cooperation in making prompt responses possible—we completed the trial production operation in January 2016 without any quality problems or accidents. We then successfully launched full-scale operations and have been continuing to operate without any problems.

* TBT: tetrabutyl orthotitanate

Mizushima Plant

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

Major products manufactured
Soda cyanide, potassium cyanide, diaminomaleonitrile (DAMN)

Number of employees
49 (as of the end of March 2016)

Number of employees of affiliates
23 (as of the end of March 2016)

ISO 14001: Certified in October 2001
ISO 9001: Certified in January 1999
OHSAS 18001: Certified in January 2009

Plant recognized by society for its safe and stable operation

Teruo Tachibana
Plant Manager

Mizushima Plant started its operation in 1969 in the Mizushima Industrial Area, which extends from the mouth of the Takahashi river in Okayama Prefecture and has access to abundant supplies of industrial water, oil and electricity while being conveniently located for land and sea transportation. In its early days, the plant was supplied with raw materials from neighboring companies. Keenly aware of the highly toxic cyanide the plant uses in its production activities, all employees working at the plant, including those of affiliate companies, engage in CSR activities in compliance with requirements, including with regard to handling ingredients and products, wearing protect clothing correctly, and performing safe operations. Since FY 2006, we have been engaged in the Mission Visualization (MV) project. The objective of the project is to visualize and share information on CSR activities among all plant personnel with the goal of improvement. In these activities, we apply a cooperative employee-driven approach rather than a top-down approach. Information on the state, progress and results of activities is provided throughout the plant by placing MV materials in highly visible locations and holding a presentation meeting. This is a very favorable project and we will continue it.

In the last fiscal year, our plant and affiliate companies achieved “zero accidents and zero disasters.” Of particular note, we achieved a total number of consecutive days without an accident causing an absence from work of 8,547 (as of the end of March 2016). With regard to environmental safety, we have achieved “no environmental abnormalities.” We will continue our efforts to be recognized for our safe, stable and problem-free production activities by society.

TOPICS

Participation in volunteer activities

The “Himawari-go (a specialized train for people with disabilities)” program for this fiscal year was held on May 24 under a clear sky. A total of 324 participated, including those with disabilities and volunteers who assisted them. We chartered a seven-car train to cross the Great Seto Bridge and visit Ritsurin Garden and Tamamo Castle. Ritsurin Garden is a beautifully lush traditional Japanese-style garden and we enjoyed a leisurely stroll through it. We believe that the participants with disabilities, who usually have few opportunities to get out and about, enjoyed the tour very much. It was wonderful to see their smiling faces. We will continue this program.

Plant environment data

Note: Figures in parentheses show the change compared with the FY 2015 result. + indicates an increase and ▲ a decrease.

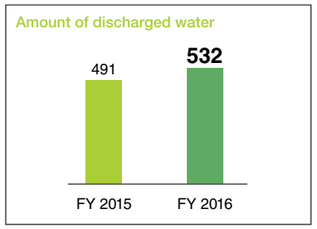
Unit: t/year (amount of discharged water: 1,000 t/year; CO_2: 10,000 t/year)

Actual environment data in FY 2016	Emissions to water			Emissions to air				Final disposal as landfill
	Amount of discharged water	BOD	COD	CO_2	NO_x	SO_x	Soot and dust	
	532 (+41)	—	2.1 (+0.2)	1.1 (+0.2)	3.0 (+0.3)	0.0 (0)	0.0 (0)	6.7 (+3.0)

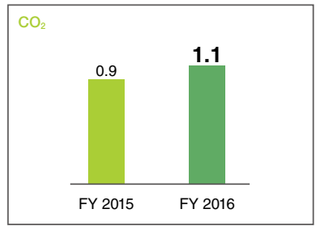
Unit: t/year

Emissions of PRTR-designated substances in FY 2016	Substance name	Amount emission		Amount transferred
		Air	Water	
	Inorganic cyanides	0.17 (+0.05)	0.004 (+0.001)	0.02 (+0.01)
	Acetonitrile	0.00 (0.00)	0.00 (0.00)	4.39 (+4.39)
	Xylene	0.00 (0.00)	0.00 (0.00)	0.58 (+0.58)
	Designated substances: 4 substances Total emissions: 0.17 t Total amount transferred: 5.00 t			

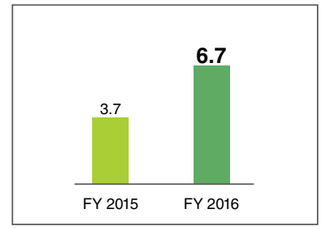
Emissions to water (1,000 t)



Emissions to air (10,000 t)



Final disposal as landfill (t)



On-site reports

Emergency drill for accidents during product transportation

Mizushima Plant manufactures products quite different from those manufactured at other plants. We therefore provide RC education to product storage and transportation companies every year. The objective is to provide information on how to prevent quality-related problems during transportation, the characteristics of products, how to handle them, and how to respond in emergencies. We also conduct a joint drill in cooperation with each transportation company on the assumption that a serious accident occurs during product transportation. This year, we conducted a drill on the assumption that an accident occurred at an intersection of a public highway, resulting in a chemical spill from the vehicle. The drill unfolded as follows: Upon the occurrence of the accident, the transportation company made an emergency call and started to mop up the spilled products. After receiving the emergency call, the plant set up an emergency operations center and sent an initial response team to the accident site. A hazard elimination team and a technical team were also sent to the site with emergency response materials. They took charge of responding to government agencies and assisting the transportation company. The center conducted an emergency communication drill with those involved and kept them informed of the situation on the ground. While confirming the situation, the head of the center gave instructions and informed those involved of the ongoing situation. The drill increased the risk awareness among participants from both the transportation company and the plant. We will conduct more drills on the assumption of the occurrence of all kinds of accidents so that we can promptly respond to any emergency situation.

Toxic substance leak drill (2015)

Chiba Plant

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

Major products manufactured
POLYBUTADIENE, VP Polymer, Titabond, D-90, Take-One

Number of employees
117 (as of the end of March 2016)

Number of employees of affiliates
80 (as of the end of March 2016)

ISO 14001: Certified in July 2000
ISO 9001: Certified in August 1997
OHSAS 18001: Certified in February 2008

Well-planned PDCA cycle to ensure safety and security in the future

Atsuo Watanabe
Plant Manager

Among the array of big plants belonging to large chemical manufacturers located in the Keiyo Coastal Industrial Complex, Nippon Soda's Chiba Plant is relatively small. Chiba Plant focuses on the implementation of a "well-planned PDCA cycle." The PDCA cycle is an indispensable system for ensuring plant safety. Since last year, we have particularly focused on being more plan-oriented and improving the effects of the "Do" part of the cycle.

If every employee makes it a habit to improve his or her thinking, we can improve the quality of the "Plan" phase of the PDCA cycle. By implementing an improved plan, we can achieve higher safety levels. Through these efforts, we will be able to improve the level of the entire facility and, eventually, improve the level of employees' performance, thereby shaping a better future for Chiba Plant.

Humans play a critical role in ensuring safety. For example, it is humans that incorporate safety mechanisms into the plant at the design stage. Most parts of the plant are now automated, yet it was also humans who developed the mechanisms for automation and who operate the plant using those mechanisms. Efforts will be made to improve individual abilities and all employees will be encouraged to work together to make the plant safer, more stable, and more efficient.

Our efforts are also directed toward promoting exchange with local residents. Together with employees of other companies in the Keiyo Coastal Industrial Complex, we participate in an annual festival organized by a local community. We also participate in the Konkatsu in Kombinat (Matchmaking in the Industrial Complex event). (No good news, so far?)

While the scale of our plant is small, we will continue making products that add value to people's lives and emphasize maintaining close relationships with local residents. Through these efforts, we will make our plant much safer.

TOPICS

Goi Rinkai Matsuri (Goi Rinkai Festival)

Held in June every year, the Goi Rinkai Festival is jointly organized by companies and neighborhood associations in the coastal area of the Goi district of Ichihara City. Its goal is to strengthen the relationship between local residents and companies. Every year, our company sets up a raffle stall for *dagashi*, or cheap traditional Japanese sweets. The stall always attracts a good crowd, with all raffles sold out before the festival ends. In addition to stalls, events at the festival include a squadron show, a popular songs performance, and a Soran Bushi dance performance by local elementary school children. In short, people of all ages come along to enjoy the lively and bustling atmosphere of the festival. By hosting this kind of event, we hope to win for our plant the love and support of local people.

Plant environment data

Note: Figures in parentheses show the change compared with the FY 2015 result. + indicates an increase and ▲ a decrease.
* Facilities without any emissions

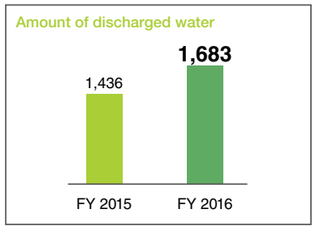
Unit: t/year (amount of discharged water: 1,000 t/year; CO_2: 10,000 t/year)

	Emissions to water			Emissions to air				Final disposal as landfill
	Amount of discharged water	BOD	COD	CO_2	NO_x	SO_x	Soot and dust	
Actual environment data in FY 2016	1,683 (+247)	—	11.8 (+2.1)	1.7 (▲0.1)	*—	*—	*—	4.5 (+0.3)

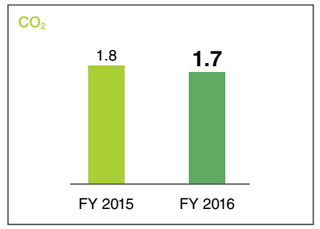
Unit: t/year

	Substance name	Amount emission		Amount transferred
		Air	Water	
Emissions of PRTR-designated substances in FY 2016	Toluene	9.88 (+1.73)	0.00 (0.00)	0.63 (+0.35)
	n-hexane	4.70 (▲0.41)	0.00 (0.00)	0.00 (0.00)
	1,3-butadiene	3.46 (+0.06)	0.00 (0.00)	0.00 (0.00)
	Designated substances: 12 substances Total emissions: 18.69 t Total amount transferred: 50.28 t			

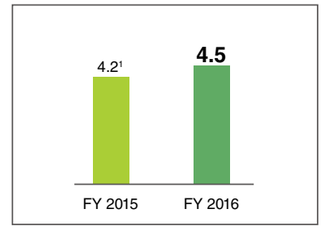
Emissions to water (1,000 t)



Emissions to air (10,000 t)



Final disposal as landfill (t)



1 The figure "0.3 t" for FY 2015 reported in the CSR Report 2015 should be corrected to "4.2 t."

On-site reports

Efforts to maintain zero accidents

Many companies in petrochemical complexes are required by law to have a disaster prevention team and certain facilities (fire engines, etc.) in order to be prepared for disasters. Each group of Chiba Plant Disaster Prevention Team has traditionally consisted of five Nippon Soda employees. However, due to automation aimed at maintaining stable and safe production, the number of personnel at the manufacturing site has been reduced. For this reason, we established a working group to discuss the possibility of making the disaster prevention team leaner and more efficient without compromising its capabilities. As a result, we identified some labor-saving tools, including the adoption of a high performance chemical fire engine, bone conduction radio transmitters to facilitate communication among team members, and hose carts designed in such a way that the hose can be extended quickly by one person.

The first thing we did, in 2014, was to replace our Class A ordinary chemical fire engine with a model equipped with labor-saving functions. We then established infrastructure that meets necessary conditions after consultation with the Fire Department and other relevant organizations. At the same time, disaster prevention team members (employees) conducted drills repeatedly until they successfully passed a review by the Ichihara Fire Department and received permission to reduce the resources for disaster response in December 2015. As a result, each five-member group was replaced by a three-member group on January 12, 2016.

Despite the decrease in the number of team members from five to three, the capabilities of the team have not changed. For example, they can spray water with a forked hose and extinguish a fire more quickly than before. We will continue our efforts to maintain zero accidents that require the dispatch of the disaster prevention team, and to maintain and improve our preparedness for possible disasters.

On January 10, 2016, Chiba Plant was awarded a letter of appreciation from the director of the Ichihara Fire Department for its achievement of zero accidents.

Odawara Research Center

345 Takada, Odawara, Kanagawa 250-0280
Tel: +81-465-42-3511 Fax: +81-465-42-2180

Odawara Research Center, a multidisciplinary research organization, focuses mainly on the following three areas in relation to agrochemicals: chemical synthesis, biological research, and safety research. For in-the-field experimentation, the center operates the Haibara Field Research Center (Shizuoka), Bandai Field Research Station (Fukushima) and Sarabetsu Experimental Field (Hokkaido).

Environment- and safety-conscious research activities

Takashi Kishimoto
Executive Officer
Research & Development Division Manager
and Research Center General Manager

Odawara Research Center promotes the research and development mainly of agrochemicals to support dietary needs and thereby contributes to raising living standards. In May 2015, for the first time in 30 years, we established a new agricultural field for running experiments, calling it the Sarabetsu Experimental Field. The center now comprehensively operates several facilities in four districts: Odawara in Kanagawa, Haibara in Shizuoka, Bandai in Fukushima and Sarabetsu in Hokkaido. In conducting its research activities, the research center places primary importance on occupational safety and health, environmental protection, and chemicals and product safety. In our efforts in occupational safety and health, we are promoting KYT and the identification of "hiyari-hat" (near miss) accidents with the aim of raising safety awareness. In addition, we also place emphasis on the risk assessment of research procedures, which have not been properly assessed due to a small number of routine tasks. Because of the difference in work modes between the four districts, we take particular account of their unique characteristics. Our efforts in environmental protection are focused on reducing the environmental impacts of our business activities by reducing emissions of toxic substances and industrial waste and by saving energy. Because we deal with a wide variety of chemicals, we place great importance on compliance with relevant laws and regulations and improve their management system in such a way as to give consideration to the environment, safety and health. In addition, through specific implementation of the personnel system and proactive labor-management discussions based on the company's basic policy, we focus our efforts on "creating a work environment where every employee can engage in meaningful work."

TOPICS

A new occupational physician specializing in mental health

In November 2015, we were joined by occupational physician Dr. Karube, who is a specialist in mental health. She visits our research center once a month. Partly for the purpose of introducing her to our personnel, we asked Dr. Karube to give a series of three lectures titled, "Coping with stress and self-care," starting in December. From her presentations, we learned about how to deal with stress. There are currently no employees absent due to mental health problems. It is hoped that, through her education and face-to-face counseling sessions, we can not only prevent employees from developing mental health problems but also improve communication among employees and enhance the vitality of the workplace.

Research efforts to contribute to reducing global environmental impacts

Odawara Research Center is mainly engaged in the research and development of agrochemicals. The scope of research, however, is not limited to chemically synthesized agrochemicals, as the words "chemistry" and "agrochemicals" may imply.

Agrochemicals are used for crops during growth stages. They are therefore released into the environment. Any chemical pesticide has a certain level of impact on the environment. Biopesticides derived from organisms, which help control pests using insects and microorganisms that are natural enemies of the target pests, are also categorized in agrochemicals. Biopesticides are ecofriendly pesticides that achieve the objective of reducing environmental impacts.

Odawara Research Center also conducts research on biopesticides and has been successful in commercial production of microbial fungicides under the name of Agrocare WP and Masterpiece WP. Both products use naturally derived microorganisms: those isolated from tea leaves for Agrocare WP and from lettuce for Masterpiece WP, respectively.

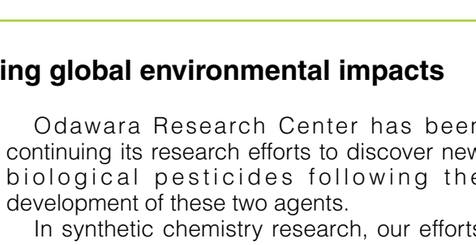
Bacillus subtilis HAI-0404 strain

The active ingredient of Agrocare WP is *Bacillus subtilis* HAI-0404 strain, which belongs to the species *Bacillus subtilis. Natto* bacteria are a well-known member of this species. Agrocare WP, which was registered as an agrochemical in 2009, is effective against gray mold and powdery mildew in vegetables, such as tomato, sweet pepper, eggplant and spinach, as well as many other crop diseases. The active ingredient of Masterpiece WP is a naturally isolated *Pseudomonas rhodesiae* HAI-0804 strain. Registered as an agrochemical in 2013, Masterpiece WP is effective against bacterial soft rot on potatoes and vegetables, bacterial canker in citrus, bacterial leaf spot in peach, and many other damaging bacterial diseases.

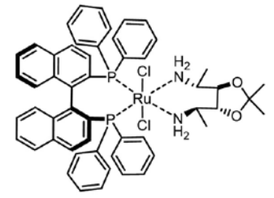
Odawara Research Center has been continuing its research efforts to discover new biological pesticides following the development of these two agents.

In synthetic chemistry research, our efforts are focused on so-called green chemistry, aiming to achieve environmentally friendly chemical synthesis by reducing environmental impacts, which are otherwise expanding on a global scale, as much as possible. The center is currently conducting research with a focus on the development of catalysts that accelerate asymmetric synthesis reaction.

Asymmetric synthesis reaction can be explained as follows: There are many biologically active substances, such as medicines and agrochemicals, that have the same chemical structure but whose molecules have a left-right symmetry, or, in other words, appear as mirror images of each other. An ordinary synthesis produces a mixture of right- and left-hand structures at a 50:50 ratio. In some cases, either of the two symmetric conformations has the target activity. In such a case, if only the one with the target activity is produced, the amount required can be halved. This reaction, selectively synthesize the one, is called an asymmetric synthesis reaction.



We commercializes catalysts that accelerate the asymmetric synthesis reaction.
[Asymmetric hydrogenation catalysts] 3 products: (S,R)-IPHAN Catalyst, (S,R)-DMAPEN Catalyst and (R,S)-DMAPEN Catalyst
[Asymmetric phase transfer catalysts] 2 products: (R)-Dioxeazepine Catalyst and (S)-Dioxeazepine Catalyst
We are continuing our research efforts to discover new catalysts in addition to these products.



Catalysts: (S,R)-IPHAN Catalyst

Chiba Research Center

12-54 Goiminami-kaigan, Ichihara, Chiba 290-0045
Tel: +81-436-23-2141 Fax: +81-436-21-9706

Chiba Research Center conducts basic research as well as manufacturing process research so that we can quickly meet the needs for developing functional materials and electronic materials and efficiently conduct research on production technology for relevant products.

New chemical products with public utility and CSR activities promoted by all staff members

Akira Kaneko
Executive Officer
Research Center
General Manager

Chiba Research Center aims to contribute to the development of society through the development of high-function chemical products, thereby becoming a research center that is trusted and whose outputs are sought after by society. To achieve these goals, all staff members are engaged in CSR activities to promote R&D conducted in consideration of not only product safety but also environmental protection.

Because we deal with a wide variety of chemicals, we ensure compliance with relevant laws and regulations and carry out various ongoing efforts to ensure safety and protect the environment.

Through these efforts, last year we reached a total of over 8,700 consecutive days without an accident causing an absence from work and achieved zero environmental abnormalities. We are working together to create a work environment where each of us can engage in meaningful work.

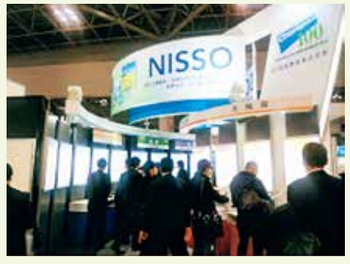
We will continue our efforts to provide new products useful to the public with safety and environmental considerations as our top priority.

TOPICS

Enhancement of research and development through cooperation among industry, government and academia

In its research and development efforts, Chiba Research Center aims to create functional materials that meet the needs of society, with living polymerization, inclusion, self-assembly, sustained-release formulation, and developer assessment as core technologies.

We not only participate in academic conferences to further improve our technologies but also present our technologies at exhibitions in search of possible applications for various purposes so that we can develop new materials and new products and improve existing products, thereby contributing to the global community.



Neo Functional Material Exhibition 2016

Aiming to create chemical products with high environmental performance — From laboratory to manufacturing

Research and development at Chiba Research Center are mostly focused on products that are used by manufacturers as part of their products to be marketed for general consumers. We also conduct research and development of products that do not contain environmental hormones and carcinogenic substances, which cause concern for product manufacturers.

This is a report on the development by Chiba Research Center of color developers containing no chemical substances regulated by law across a number of countries, such as under the EU's Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), the Japanese Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances, and the U.S. Toxic Substance Control Act (TSCA). The color developers we have developed are used in thermal paper products such as receipts.

We were successful in developing a product containing no legally controlled substances after obtaining favorable results in experiments in beakers and flasks. We then undertook various kinds of feasibility assessments for mass production of the developed product, including the possibility of the product being successful on the market. After we concluded that there were good prospects for commercialization, we performed an investigation to identify the optimal manufacturing site as well as conducted pilot productions on a semi-commercial scale at plants in Japan and abroad.

During a pilot production run at an overseas plant, Head Office employees and researchers stayed at the plant's guesthouse. As a result of their hard work, they were successful in establishing production conditions and produced some 50 tons of the product in total. The employees overseeing the production were at first worried that they would find it hard to adjust to local living conditions, particularly the food. However, cooks at the plant prepared meals suited to Japanese taste buds and the researchers actually gained weight by the time they returned to Japan. They did complain, however, that, even after washing, their work clothes retained the distinct smells of the country.

Back in Japan, with a view to exporting the product, a pilot production project was conducted for nearly two years at our company's Takaoka Plant, which is located close to large port facilities in Takaoka City, Toyama. For this project, personnel from Nihongi Plant and Takaoka Plant cooperated with researchers from Chiba Research Center. They successfully established production conditions at Takaoka Plant and produced some 2.1 tons of the product in total. We have thus established the production conditions for this color developer.

We have provided the product manufactured in the pilot project to thermal paper manufacturers, which are now evaluating it. So far, they have reported that "the quality of the developer meets the desired quality." We expect that mass production will start soon. Through this series of research and development activities as described above, we have successfully developed a new product containing no legally controlled substances.

We will continue our R&D to reduce environmental impacts in order to contribute to society.

Laboratory experiment

Manufacturing facilities

Feature Article on Group Company's CSR Activities:

Nisso Metallochemical Co., Ltd.

Nisso Metallochemical Co., Ltd., a member of the Nippon Soda Group, places primary importance on business management in compliance with the law. Its management philosophy is to ensure environmentally friendly production activities, contribute to and live in harmony with local communities, and achieve business activities that meet expectations of stakeholders.

Akihiko Kikuchi
President

Company introduction

In 1928, Nippon Soda Co., Ltd. inherited the business of Takada Shokai Odera Refinery (founded in 1916). In 1965, it spun off this unit as Nisso Kinzoku Co., Ltd., an independent entity. Nisso Kinzoku entered the industrial waste treatment business in 1972 and, in 1975, started the recovery and production of zinc from steel-making flue cinder. In 1977, it started the recovery and production of sulfuric acid and sulfuric acid compounds from waste sulfuric acid at Nisso Chiba Refine Co., Ltd. (present Chiba Plant). In 1983, certain businesses were consolidated into a new company called "Nisso Metallochemical Co., Ltd."

The following are the three major business activities of Nisso Metallochemical Co., Ltd.:

Environmental development business

Intermediate incineration of industrial waste with high-temperature pyrolysis using a rotating combustion furnace

Non-ferrous metals business

Manufacturing and marketing of wear-resistant alloy for die casting using refined zinc recovered from steel-making flue cinder that is generated in the electric furnace industry; high-strength, wear-resistant special alloy; and JIS zinc alloys for die casting

Industrial chemicals business

Manufacturing and marketing of NISSO Sulfan (sulfuric anhydride) used to manufacture detergents and drugs, concentrated and unconcentrated oleum, sodium sulfite, sodium bisulfite, and Bisphenol S

Efforts in CSR activities

Based on the company-wide basic CSR policy, Nisso Metallochemical Co., Ltd. adopts CSR practices in all of its business activities with the aim of improving environmental safety, occupational safety, product safety, and customer satisfaction by exploiting the company's technologies and knowledge gained in its metal- and chemical-related business. Our efforts are also focused on contributing to improving everyday life and promoting the development of local communities through our compliance-oriented business activities.

Compliance with law

Our executives conduct a compliance (CP) audit once a year to confirm our compliance with laws and regulations at each plant. Information about revisions to laws, such as the Waste Management and Public Cleansing Act, the Poisonous and Deleterious Substances Control Act and the Industrial Safety and Health Act, is provided to employees at the Corporate Social Responsibility Administration Meeting held twice a year.

2015 CSR Policy

1. Management System and Organizational Governance
2. Environmental Protection
3. Process Safety & Disaster Prevention/BCP
4. Occupational Safety and Health
5. Distribution Safety, Quality Assurance and Consumer Issues
6. Chemicals and Product Safety
7. Social Dialogue, Community Involvement and Development, Fair Operating Practices and Compliance

Environmental protection

Efforts are focused on maintaining and improving the environmental management system related to exhaust gas and wastewater, reducing waste, and preventing global warming in order to reduce the environmental impacts posed by business activities at each plant.

Quality improvement

We promote quality improvement in accordance with ISO 9001. To manufacture better products, we report on the achievements of activities we have implemented at the Corporate Social Responsibility Administration Meeting held twice a year. We also adopt the PDCA cycle to achieve improvement.

Process safety and disaster prevention and BCP

To be prepared for an emergency, we implement measures to ensure process safety and disaster prevention, including plant-wide fire and disaster drills and department emergency drills. We develop a BCP, according to which we make continuous improvements.

At Aizu Plant, once a month the Safety and Health Committee patrols worksites to ensure compliance with the work procedures for each process so as to eliminate occupational accidents and strengthen efforts for process safety and disaster prevention.

Social contribution

We participate in locally organized events, such as cleanup projects and local conferences, to achieve a harmonious relationship with local communities. As part of the plant's 3S activity, we organize a cleanup campaign to maintain the plant in a clean state.

Control room, Chiba Plant

Emergency drill, Chiba Plant

Occupational safety and health

The Safety and Health Committee takes the initiative in eliminating occupational accidents and preventing on-site accidents at our facilities by conducting safety patrols. We promote the worksite 3S activity on a daily basis to achieve a fulfilling workplace environment.

Safety effort at Aizu Plant

The Safety Subcommittee under the Safety and Health Committee conducts worksite 3S patrols twice a month.

Safety effort at Chiba Plant

The Plant Manager conducts daily patrols and supervisors conduct periodic patrols.

Nippon Soda Group Companies

Manufacturing group company: Nisso Metallochemical Co., Ltd.

Akihiko Kikuchi
President

To carry out sound and transparent corporate activities in compliance with laws and regulations, all employees are required to commit themselves to promoting the implementation and continuous improvement of the management system by taking advantage of the company's technology and knowledge gained in its metal- and chemical-related business. Through these efforts, we will further improve environmental safety, occupational safety, product safety and customer satisfaction.

Through our compliance-oriented business activities, we will contribute to improving living standards and supporting the development of local communities.

Business overview

We are committed to meeting customer needs with a focus on the following three business areas: environmental development, non-ferrous metals, and industrial chemicals.

Corporate Data

3-1-2 Ueno, Taito-ku, Tokyo 110-0005 (Akihabara Shinko Daiichi-seimei Building)
Tel: +81-3-5688-6381 Fax: +81-3-5688-1132
URL: http://www.nmcc.co.jp/
Aizu Plant: 1372 Oaza-Bandai, Bandai-machi, Yama-gun, Fukushima 969-3393
Tel: +81-242-73-2121 Fax: +81-242-73-2668
Chiba Plant: 12-32 Goiminami-kaigan, Ichihara, Chiba 290-0045
Tel: +81-436-21-3351 Fax: +81-436-21-1237

- Founded in 1916*
- Established as the current corporation in August 1983*
- Capital: 1,000 million yen
- Net sales: 7,849 million yen (FY 2016)
- Number of employees: 126 (as of the end of March 2016)

* The business of Takada Shokai Odera Refinery, founded in 1916, was transferred to Nippon Soda Co., Ltd. in 1928. In 1983, the company was re-established as Nisso Metallochemical Co., Ltd.

Manufacturing group company: Nisso Fine Co., Ltd.

Gaishi Fujita
Representative Director and President

At Nisso Fine Co., Ltd. we focus on systematically integrating our capabilities in the fields of sales development, technology and production in order to further improve our expertise so that we can respond to needs for all kinds of products, ranging from resin molding materials to highly functional chemicals and from samples to mass production. Our goal is to become a trusted partner to our customers.

Business overview

We are engaged in the contract manufacturing and marketing of functional dyes, functional resins, pharmaceuticals, and agricultural chemicals and their intermediates as well as the manufacturing, processing and marketing of synthetic resin molded products, deoxidizers and high-function desiccants.

Corporate Data

3-3-6 Honcho, Nihonbashi, Chuo-ku, Tokyo 103-8422 (Wakamatsu Building 2F)
Tel: +81-3-6202-0161 Fax: +81-3-6202-0168
URL: http://www.nissofine.co.jp/
Isohara Plant: 1309-2 Isohara, Isohara-cho, Kitaibaraki, Ibaraki 319-1541
Tel: +81-293-42-2064 Fax: +81-293-42-4130
Iwaki Manufacturing Department:
1-6 Yoshima-kogyodanchi, Iwaki, Fukushima 970-1144
Tel: +81-246-36-3576 Fax: +81-246-36-6687
Koriyama Plant: 1-176 Sasagawa, Koriyama, Fukushima 963-0108
Tel: +81-24-945-1886 Fax: +81-24-945-3637
Onahama Plant: 41-26 Yanagi-machi, Onahama-noda, Iwaki, Fukushima 971-8126
Tel: +81-246-58-4182 Fax: +81-246-58-6277

- Established in April 2012*
- Capital: 300 million yen
- Net sales: 9,522 million yen (FY 2016)
- Number of employees: 225 (as of the end of March 2016)

* Nisso Fine Chemicals Co., Ltd. (established in 2007 as a result of the merger of Koriyama Kasei Co., Ltd., established in 1954, and Ibaraki Kasei Co., Ltd., established in 1971) and Nisso Jushi Co., Ltd. (established in 1965) were merged and the new company was named Nisso Fine Co., Ltd.

Manufacturing group company: Shinfuji Kaseiyaku Co., Ltd.

Masanobu Kumano
President

Our company is located in a verdant area surrounded by the Jomo mountains. Our management philosophy is to contribute to social development through chemistry and to be a reliable and sought-after company. We provide agrochemical products, such as smoking agents, that are manufactured based on the technology and knowledge we have acquired as a chemical firm and that contribute to the stable supply of food resources and labor saving for agricultural producers. As a Nippon Soda Group company, we place importance on promoting CSR activities, mainly focusing on environmental protection, occupational safety and health, and quality assurance.

Business overview

Our business mainly consists of two areas: the contract manufacturing of agrochemical products, such as smoking agents, water-dispersible granules, water-dispersible powder and spraying agents; and the manufacture, processing, small-size packaging and packaging of general industrial chemicals.

Corporate Data

Head Office/Plant (Gunma Plant)
313 Koyagi-machi, Takasaki, Gunma 370-0071
(located in the Takasaki Oyagi Kogyo Danchi)
Tel: +81-27-361-6100 Fax: +81-27-361-6116
URL: http://www.shinfuji-kaseiyaku.co.jp/
Takasaki Plant: 888 Oyagimachi, Takasaki, Gunma 370-0072
(located in the Takasaki Oyagi Kogyo Danchi)
Tel: +81-27-361-0371 Fax: +81-27-362-8909

- Founded/Established in October 1975
- Capital: 70 million yen
- Net sales: 1,095 million yen (FY 2016)
- Number of employees: 62 (as of the end of March 2016)

Manufacturing group company: ALKALINE SAS

Bruno Gastinne
President

MSSA SAS, of the ALKALINE Group, adopted and declared its policy on quality, safety and environment, which focuses on the safety and health of employees, environment and resident protection, and satisfaction of customers, employees and its stockholder as the highest priority items. In addition, MSSA SAS, as a member of NISSO Group, not only observes compliance (especially the regulations applying to the French chemical industry and related laws), but has also introduced the ISO 9001 and 14001 management systems in its business performance, aiming to achieve a sustainable development and the increase of its enterprise value.

MSSA SAS, appartenant au groupe Alkaline, a adopté et déclaré sa politique concernant la qualité, la sécurité et l'environnement.

Celle-ci met l'accent sur la sécurité et la santé des employés, l'environnement et la protection des riverains, la satisfaction des clients, des employés et de ses actionnaires qui sont ses plus hautes priorités.

En outre, MSSA SAS, en tant que membre du groupe NISSO, est non seulement en conformité avec les lois et réglementations (en particulier avec la réglementation applicable à l'industrie chimique française et les lois connexes), mais elle a également mis en place les normes ISO 9001 et 14001 pour la performance des systèmes de gestion de l'entreprise, visant à atteindre un développement durable et l'augmentation de sa valeur.

Business overview

We are engaged in the manufacture and marketing of metallic sodium, chlorine, vanadium chloride, sodium oxide and alkali metals. Being certified with ISO 14001, we give proper consideration to resource and energy efficiency and to environmental protection.

Corporate Data

MSSA S.A.S.
Pomblière-73600 Saint-Marcel, France
Tel: +33-(0)4-79-24-7070 Fax: +33-(0)4-79-24-7050

- Established in February 2002
- Capital: 10.909 million EUR
- Net sales: 79.6 million EUR (2015)
- Number of employees: 281 (as of the end of December 2015)

Nippon Soda Group Companies

Manufacturing group company: Nisso Namhae Agro Co., Ltd.

Makoto Masuda
President

As a manufacturer of agrochemical substances, we are continuing our efforts to earn the trust of local communities as well as building confidence in the global community in cooperation with Nippon Soda. Our aim is to contribute to increasing food production. To ensure the protection of the global environment and to build relationships with local communities, safe operations, assured quality and stable production are essential. With this in mind, we focus on ensuring safe operations, assured quality and stable production so that we can continue to grow together with society.

Business overview

Nisso Namhae Agro Co., Ltd. was jointly established by Nippon Soda, Namhae Chemical Co., Ltd. (the top fertilizer manufacturer in S. Korea) and Mitsubishi Corporation to manufacture the active ingredient for Topsin M (a fungicide). This is the first overseas manufacturing company established by Nippon Soda using its proprietary manufacturing technology. Full-scale manufacturing was started in fiscal 2014 and manufactured products are provided by Nippon Soda to customers around the world.

Corporate Data

Yeosu Head Office:
1384, Yeosusandan-ro,
Yeosu-si, Jeollanam-do,
555716, S. Korea
Tel: +82-61-900-3500
Fax: +82-61-900-3560

Seoul Office:
18th Fl, Namsan Square Bldg,
173, Toegye-ro, Jung-gu,
Seoul, 100705, S. Korea
Tel: +82-2-2267-2708
Fax: +82-2-2267-2724

- Established: June 2011
- Capital: 32,640 million won
- Net sales: 30,641 million won (FY 2016)
- Number of employees: 29
  (as of the end of March 2016)

Manufacturing group company: Joetsu Nisso Chemical Co., Ltd.

Satoshi Tsukamura
President

Joetsu Nisso Chemical Co., Ltd., an independent contract manufacturing company partially spun-off from the Manufacturing Department of Nihongi Plant, manufactures chemical industrial products such as caustic potash, chlorine and chlorine products.

Our operation is integrated with the operation of Nihongi Plant. For our CSR activities, please refer to the CSR Activity Report of Nihongi Plant.

Corporate Data

Head Office/Plant:
950 Fujisawa, Nakago-ku, Joetsu, Niigata 949-2302 (within Nihongi Plant)
Tel: +81-255-81-2390 Fax: +81-255-81-2391

- Established: December 1, 2006

Non-manufacturing group company: Nisso Shoji Co., Ltd.

Shingo Nakamura
President

Our company adopted corporate social responsibility (CSR) practices in April 2014.

We have acquired ISO 14001 certification and have since been using a management system based on ISO 14001 standards. Our ongoing emphasis under this management system is on raising awareness of global environmental issues and promoting compliance-based transparent and fair business activities. In general, as a member of the Nippon Soda Group, we promote CSR activities that require every employee to be aware of and comply with the seven principles of social responsibility so as to gain the increased confidence of society.

Business overview

Over the last 70 some years, we have developed our global business in a wide variety of areas, mainly involving chemicals such as resins, industrial equipment and building materials. While fostering a lively corporate culture, we will continue expanding out network of trust and making efforts to contribute to society for many years to come through our environmentally conscious activities.

Corporate Data

3-3-6 Nihonbashi-Honcho, Chuo-ku, Tokyo 103-8422 (Wakamatsu Building)
Tel: +81-3-3270-0701 Fax: +81-3-3279-6026
URL: http://www.nissoshoji.com/en/

Osaka Branch: 4-4-11 Awaji-machi, Chuo-ku, Osaka-shi, Osaka 541-0047
(Urbanex Awajimachi Building 4F)
Tel: +81-6-6202-6941 (main) Fax: +81-6-6229-0924

Nagoya Sales Dept.:
3-4-6 Nishiki, Naka-ku, Nagoya, Aichi 460-0003
(Sakura-dori, Otsu Dai-ichi Seimei Building)
Tel: +81-52-971-9271 (main) Fax: +81-52-971-9370

- Established: December 6, 1939
- Capital: 401 million yen
- Net sales: 38,562 million yen (FY 2016)
- Number of employees: 165
  (as of the end of March 2016)

Non-manufacturing group company: Sanwa Soko Co., Ltd.

Nobuyoshi Takami
President

Sanwa Soko provides logistics services consisting mainly of warehousing services to support the logistics operations of our corporate clients as well as insurance agency services largely consisting of general insurance.

Our basic CSR principles revolve around the concepts of “well-established corporate governance practices,” “promotion of environmental protection,” “quality improvement” and “social contribution.” With safety as our top priority, we focus our efforts on constant improvement and enhancement and are contributing to creating a better standard of living by providing high-quality and safe logistics services.

Business overview

Based on the principles of safety, quality and environmental protection, we provide comprehensive distribution systems suitable for hazardous, poisonous and deleterious substances and pharmaceuticals using our high-function distribution facilities and highly advanced expertise. Through these business activities, we are committed to ensuring sustainable profits and improving our corporate value.

Corporate Data

2-4-1 Shibakoen, Minato-ku, Tokyo 105-0011 (Shiba Park Building B 4F)
Tel: +81-3-3578-3001 (main) Fax: +81-3-3578-3014
URL: http://www.sanwasoko.co.jp/english/

Osaka Branch: Daihatsu Building, 2-2-40 Katamachi,
Miyakojima-ku, Osaka-shi, Osaka 534-0025
Tel: +81-6-6353-7406 (main) Fax: +81-6-6353-7435

Yokohama Office: 7F, Kannai Tosei Building II, 4-45-1
Sumiyoshi-cho, Naka-ku, Yokohama, Kanagawa 231-0013
Tel: +81-45-228-1733 (main) Fax: +81-45-228-1735

- Established: May 1, 1950
- Capital: 1,831 million yen
- Net sales: 5,583 million yen (FY 2016)
- Number of employees: 198
  (as of the end of March 2016)

Nippon Soda Group Companies

Non-manufacturing group company: Nisso Engineering Co., Ltd.

Haruo Higuchi
President

Our management philosophy is to create new value and make broad contributions to society through engineering. To quickly respond to the sophistication and diversification of technology, we design our plants in such a way as to meet future needs. We also provide reliable after-sale services to ensure customer satisfaction with our technology, quality and ability to get the job done. Our goal is to become a company that is indispensable to society by ensuring safety, environmental protection and compliance.

Business overview

We provide engineering services ranging from construction of various kinds of plants and selection of systems and equipment to post-delivery maintenance and energy saving. We have our own research facilities and diverse expertise, with which we can meet the needs of a variety of customers.

Corporate Data

1-6-1 Kanda Jinbo-cho, Chiyoda-ku, Tokyo 101-0051 (Takii Tokyo Building)
Tel: +81-3-3296-9201 Fax: +81-3-3296-9300
URL: http://www.nisso-eng.co.jp/

Osaka Branch: 2-6-8 Honmachi, Chuo-ku, Osaka-shi, Osaka 541-0053
(Senba Central Building)
Tel: +81-6-6258-6566 Fax: +81-6-6258-6572
Technology Development Research Center:
47 Goiminami-kaigan, Ichihara, Chiba 290-0045
Tel: +81-436-21-6441 Fax: +81-436-22-6241

- Established: October 10, 1962
- Capital: 1,000 million yen
- Net sales: 15,918 million yen (FY 2016)
- Number of employees: 145
  (as of the end of March 2016)

* The company was founded as Shin-nichi Kogyo Co., Ltd. in 1962 and renamed as Nisso Engineering Co., Ltd. in 1967.

Non-manufacturing group company: Nisso Kensetsu Co., Ltd.

Shinichi Kawachi
President

We exert a mixture of fidelity, creativity and passion to make sure we win the satisfaction of our customers, business partners and employees and, in due course, eventually contribute to the sustainable development of society. Based on this management philosophy, we aim to cement our leading position as a key general contractor in the region.

Business overview

Based on our experience as a Nippon Soda Group company engaged in civil engineering, architectural design and construction, we are engaged in the design and construction of private and public works as well as Nippon Soda Group projects mainly in Niigata's Joetsu region. We meet customer needs based on our extensive construction-related experience, ranging from facilities for factories, other buildings and stores to housing facilities.

Corporate Data

1070-3 Fujisawa, Nakago-ku, Joetsu, Niigata 949-2302
Tel: +81-255-74-2561 Fax: +81-255-74-2757
URL: http://www.nissokensetu.co.jp/

- Established: November 1, 1962
- Capital: 45 million yen
- Net sales: 2,555 million yen (FY 2016)
- Number of employees: 25
  (as of the end of March 2016)

* The company was founded as Soei Kensetsu Co., Ltd. in 1962 and renamed as Nisso Kensetsu Co., Ltd. in 1967.

Non-manufacturing group company: Nisso Green Co., Ltd.

Ko Murakami
President

Since its foundation in April 1999, Nisso Green has been expanding its business with an emphasis on maintaining and improving safety, the environment, and quality, mainly in the golf courses, home gardening and forestry areas.
We will continue our efforts to provide highly safe products and create products that improve customer satisfaction.

Business overview

Nisso Green Co., Ltd. sells and markets mainly agrochemicals for golf courses, home garden and forest in Japan. Nisso Green Co., Ltd. is especially a strong position for herbicides business for the golf course market.

Corporate Data

3-1-2 Ueno, Taito-ku, Tokyo 110-0005
(Akihabara Shinko Daiichi-seimei Building 5F)
Tel: +81-3-5816-4351 (main) Fax: +81-3-5816-4355
URL: http://www.ns-green.com/

- Established: April 1, 1999
- Capital: 50 million yen
- Net sales: 1,798 million yen (FY 2016)
- Number of employees: 14
  (as of the end of March 2016)

Non-manufacturing group company: NISSO AMERICA INC.

Hiroyasu Yamazaki
President & COO

In response to the increasing number of new agrochemicals that need to be registered and the increasing requests for the reassessment of existing agents, we have increased the number of supervisory personnel since last year. To ensure transparency and soundness of business transactions with customers, we are developing control standards for purchasers.

Business overview

Established in 1986 in the U.S. City of New York, NISSO AMERICA INC. is engaged in marketing, importing and exporting, advertising, selling and registering Nippon Soda's agrochemical products and chemicals in the United States and Canada.

Corporate Data

Wall Street Plaza, 88 Pine Street, 14th Floor, New York, NY 10005 USA
Tel: +1-212-490-0350 Fax: +1-212-972-9361
URL: http://www.nissoamerica.com/

- Established: March 1986
- Capital: 1 million USD
- Net sales: 42.467 million USD (FY 2016)
- Number of employees: 11
  (as of the end of March 2016)

Non-manufacturing group company: NISSO CHEMICAL EUROPE GmbH

Atsuo Omi
President

Europe is facing serious issues, such as the migrant crisis and terrorism. Over a million migrants have entered Germany. As the population increases in the European region, the supply of food and medicines has become a serious issue. We hope to contribute to society by selling our products, such as agrochemicals and pharmaceutical excipients.

Business overview

Located in Düsseldorf, Germany, NISSO CHEMICAL EUROPE mainly sells products made by Nippon Soda. Two major categories of products the company deals in are agrochemicals and chemicals. Agrochemical products are formulated and registered in EU countries.

Corporate Data

Berliner Allee 42, 40212 Düsseldorf, Germany
Tel: +49-211-1306686-0 Fax: +49-211-32-8231
URL: http://nisso-chem.de/

- Established: July 1992
- Capital: 255,000 EUR
- Net sales: 77.2 million EUR (FY 2016)
- Number of employees: 14
  (as of the end of March 2016)

Nippon Soda Group Network

Business Sites

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

2 Osaka Branch Office: Yodoyabashi Center Bldg., 3-4-10 Kouraibashi, Chuo-ku, Osaka-shi, Osaka 541-0043
Tel: +81-6-6229-7300

Plants

3 Nihongi Plant: 950 Fujisawa, Nakago-ku, Joetsu-shi, Niigata 949-2392
Tel: +81-255-81-2300

4 Takaoka Plant: 300 Mukainohonmachi, Takaoka-shi, Toyama 933-8507
Tel: +81-766-26-0206

5 Mizushima Plant: 2767-12 Kojima-shionasu, Kurashiki-shi, Okayama 711-0934
Tel: +81-86-475-0036

6 Chiba Plant: 12-8 Goiminami-kaigan, Ichihara-shi, Chiba 290-8530
Tel: +81-436-23-2007

Research Centers

7 Odawara Research Center: 345 Takada, Odawara-shi, Kanagawa 250-0280
Tel: +81-465-42-3511

8 Haibara Field Research Center: 62-1 Sakabe, Makinohara-shi, Shizuoka 421-0412
Tel: +81-548-29-0611

9 Bandai Field Research Station: 3967 Sarashina-bikuniyama, Bandaimachi, Yama-gun, Fukushima 969-3302
Tel: +81-242-73-2525

10 Chiba Research Center: 12-54 Goiminami-kaigan, Ichihara-shi, Chiba 290-0045
Tel: +81-436-23-2141

Sales Offices

11 Sapporo Office: Takeda Risona Bldg. 3F, 4-1-2 Kitaichijo-nishi, Chuo-ku, Sapporo-shi, Hokkaido 060-0001
Tel: +81-11-241-5581

12 Sendai Office: Sendai Capital Tower, 4-10-3 Chuo, Aoba-ku, Sendai-shi, Miyagi 980-0021
Tel: +81-22-227-1741

13 Kanto Office: Sumitomo Seimei Omiya Daini Bldg., 3-13-1 Nakamachi, Omiya-ku, Saitama-shi, Saitama 330-0845
Tel: +81-48-677-6010

14 Nagoya Office: Hirokoji Daiichi Seimei Bldg., 3-1-1 Sakae, Naka-ku, Nagoya-shi, Aichi 460-0008
Tel: +81-52-238-0003

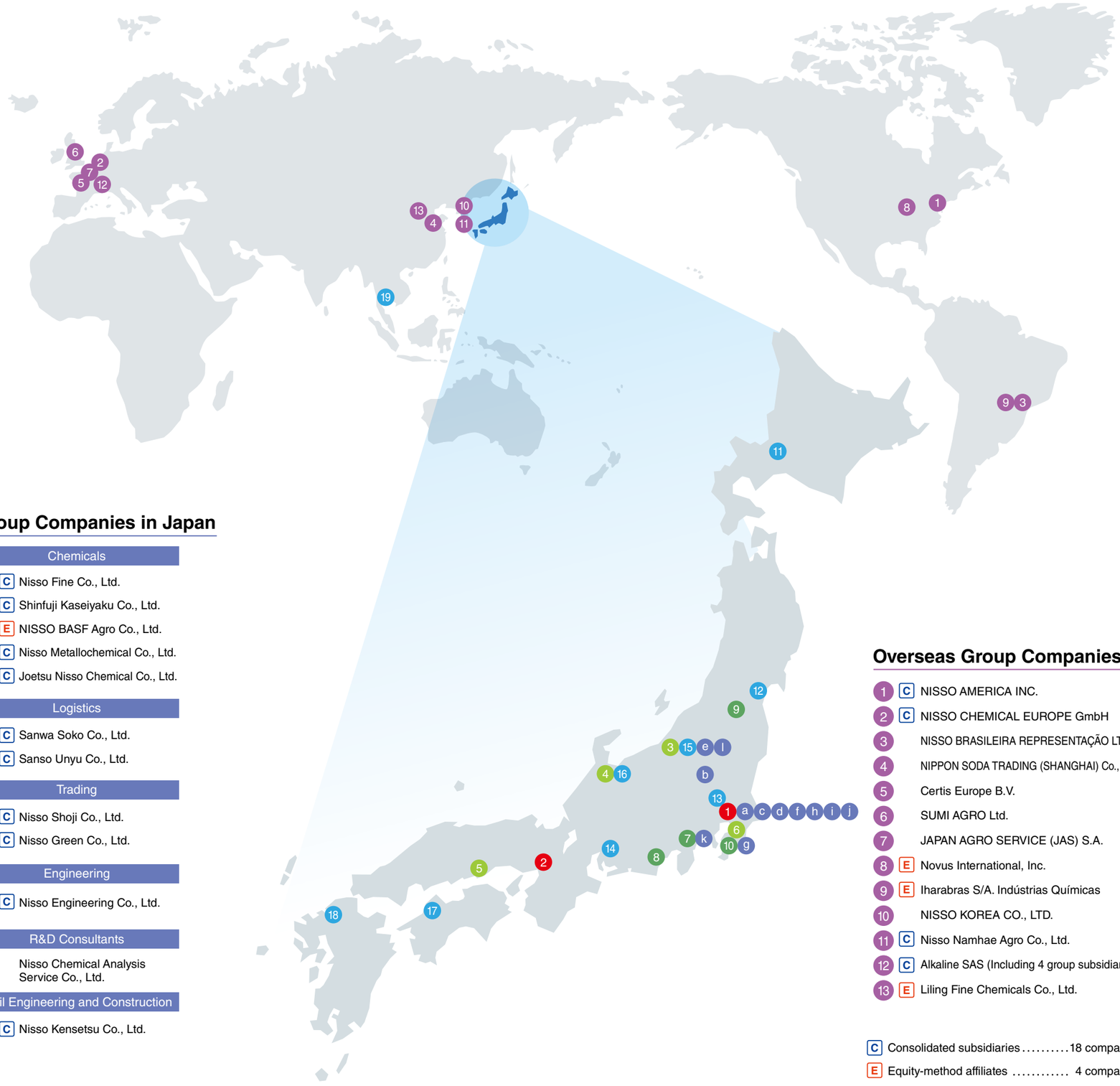
15 Shinetsu Office: Nihongi Plant, 950 Fujisawa, Nakago-ku, Joetsu-shi, Niigata 949-2302
Tel: +81-255-81-2323

16 Takaoka Office: 300 Mukainohonmachi, Takaoka-shi, Toyama 933-0901
Tel: +81-766-26-0239

17 Matsuyama Office: Asahi Seimei Matsuyama-Minamihoribata Bldg., 3-21 Hanazonomachi, Matsuyama-shi, Ehime 790-0005
Tel: +81-89-931-7315

18 Fukuoka Office: Tenjin Mitsui Bldg., 2-14-13 Tenjin, Chuo-ku, Fukuoka-shi, Fukuoka 810-0001
Tel: +81-92-771-1336

19 Bangkok Representative Office: 323 United Center Bldg., 18Flr. Unit 1801A, Silom Rd.Silom, Bangrak, Bangkok 10500, Thailand
Tel: +66-2-266-3445



Group Companies in Japan

Chemicals

a C Nisso Fine Co., Ltd.
b C Shinfuji Kaseiyaku Co., Ltd.
c E NISSO BASF Agro Co., Ltd.
d C Nisso Metallochemical Co., Ltd.
e C Joetsu Nisso Chemical Co., Ltd.

Logistics

f C Sanwa Soko Co., Ltd.
g C Sanso Unyu Co., Ltd.

Trading

h C Nisso Shoji Co., Ltd.
i C Nisso Green Co., Ltd.

Engineering

j C Nisso Engineering Co., Ltd.

R&D Consultants

k Nisso Chemical Analysis Service Co., Ltd.

Civil Engineering and Construction

l C Nisso Kensetsu Co., Ltd.

Overseas Group Companies

1 C NISSO AMERICA INC.
2 C NISSO CHEMICAL EUROPE GmbH
3 NISSO BRASILEIRA REPRESENTAÇÃO LTDA.
4 NIPPON SODA TRADING (SHANGHAI) Co., Ltd.
5 Certis Europe B.V.
6 SUMI AGRO Ltd.
7 JAPAN AGRO SERVICE (JAS) S.A.
8 E Novus International, Inc.
9 E Iharabras S/A. Indústrias Químicas
10 NISSO KOREA CO., LTD.
11 C Nisso Namhae Agro Co., Ltd.
12 C Alkaline SAS (Including 4 group subsidiaries)
13 E Liling Fine Chemicals Co., Ltd.

C Consolidated subsidiaries.....18 companies
E Equity-method affiliates ..... 4 companies

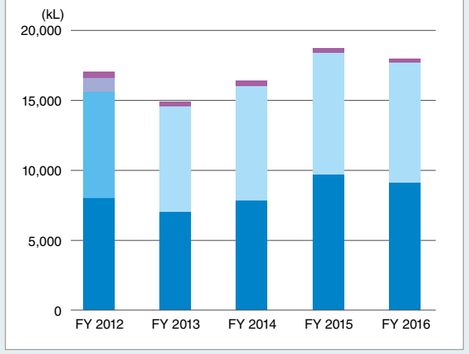
(as of March 31, 2016)

Nippon Soda Group Environmental Data Sheet

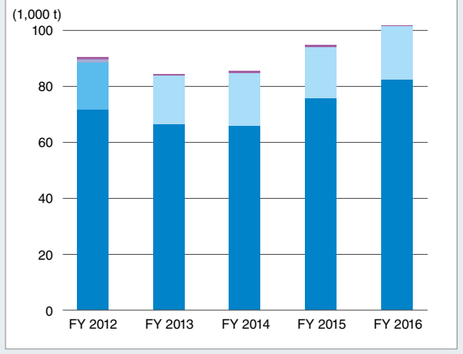
Manufacturing group companies

■ Nisso Metallochemical Co., Ltd.
■ Nisso Fine Co., Ltd. (■ former Nisso Fine Chemicals Co., Ltd., ■ former Nisso Jushi Co., Ltd.)
■ Shinfuji Kaseiyaku Co., Ltd.

Change in energy consumption (in crude oil equivalent)

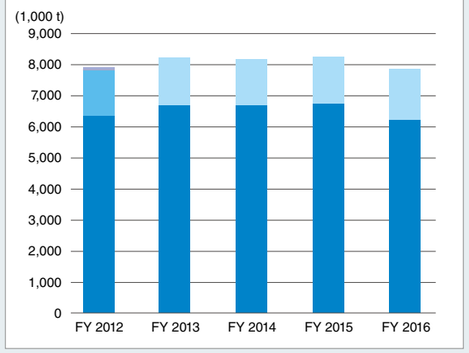


Change in the amount of carbon dioxide emissions

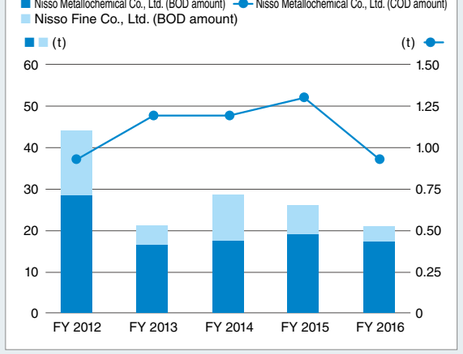


The amount increased in FY 2016 due to the increase in the amount of industrial waste disposal at Nisso Metallochemical Co., Ltd. The company uses recycled fuel where the Act on the Rational Use of Energy is not applicable and an increase in the amount of this recycled fuel partially contributed to the increase in industrial waste disposal.

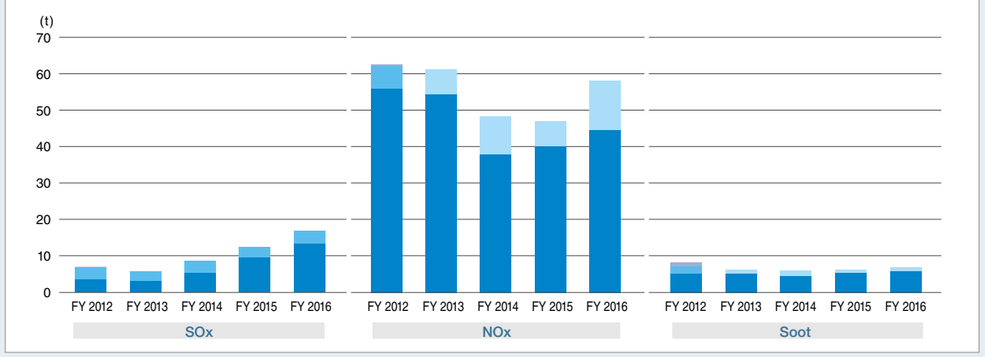
Change in the total volume of discharged water



BOD & COD of wastewater of manufacturing group companies



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



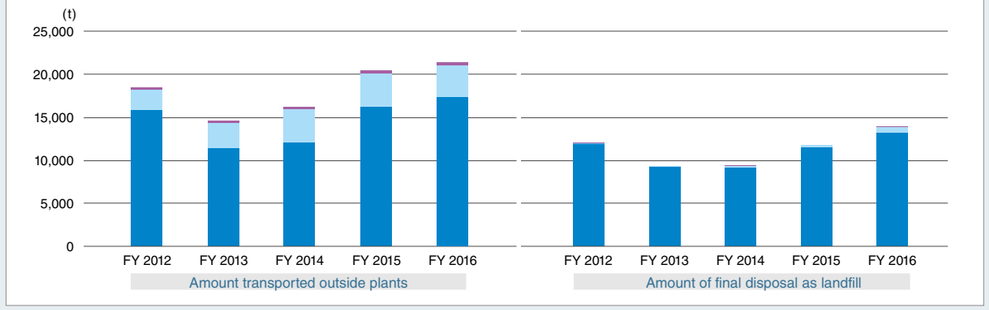
The increase in FY 2016 was due to the increase in the amount of industrial waste disposal at Nisso Metallochemical Co., Ltd.

The increase in FY 2016 was due to the increase in the amount of industrial waste disposal at Nisso Metallochemical Co., Ltd.

Manufacturing group companies

■ Nisso Metallochemical Co., Ltd.
■ Nisso Fine Co., Ltd. (■ former Nisso Fine Chemicals Co., Ltd., ■ former Nisso Jushi Co., Ltd.)
■ Shinfuji Kaseiyaku Co., Ltd.

Change in the amount of industrial waste emissions



The increase in FY 2016 was attributable to an increase in the amount of industrial waste treated under a contract and also an increase in the amount of incineration residues at Nisso Metallochemical Co., Ltd.

The increase in FY 2016 was attributable to an increase in the amount of industrial waste treated under a contract and also an increase in the amount of incineration residues at Nisso Metallochemical Co., Ltd.

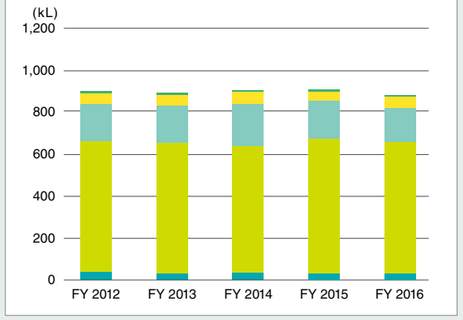
Overseas manufacturing group companies

(FY)		2012	2013	2014	2015	2016
Alkaline SAS (MSSA) (France)	Energy consumption (MWh)	280,561	253,216	261,886	251,968	277,814
	Total amount of wastewater (1,000 t)	270.65	287.34	277.49	261.85	253.03
Nisso Namhae Agro Co., Ltd. (Korea)	Energy consumption (in crude oil equivalent) (kL)	—	—	2,335.23	1,980.93	2,046.18
	Carbon dioxide emissions (1,000 t)	—	—	4.70	3.96	4.09
	Total amount of wastewater (1,000 t)	—	—	125.13	115.89	103.98

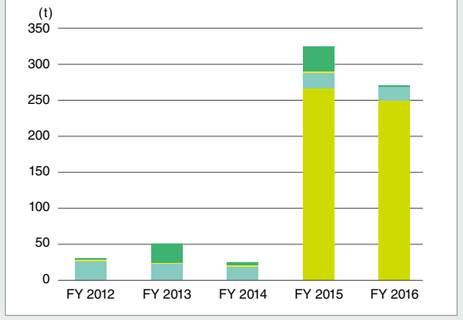
Non-manufacturing group companies

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

Change in energy consumption (in crude oil equivalent)



Change in the amount of waste generated



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

Measures taken to address violations of laws and regulations

(Nippon Soda)

September 18, excess of SS in wastewater over the agreed value at Takaoka Plant: SS value (72 mg/L) exceeded the agreed highest value of 50 mg/L. Measures to prevent a recurrence have been taken.
October 27, Nihongi Plant: 3 corrective recommendations were issued by the Joetsu Labor Standards Inspection Office and measures for improvement have been taken.
November 13, Odawara Research Center & Haibara Field Research Center: 2 corrective recommendations were issued by the Shimada Labor Standards Inspection Office and measures for improvement have been taken.
November 26, excess of BOD in wastewater over the standard value at Nihongi Plant: BOD (49 mg/L) exceeded the agreed maximum value of 40 mg/L. Measures to prevent a recurrence have been taken.
December 3: pH of wastewater from Takaoka Plant (pH 5.4 and pH 8.6) deviated from the agreed wastewater value (pH 5.8 – 8.4). Measures to prevent a recurrence have been taken.
February 3, excess of EDC in wastewater over the regulated value at Chiba Plant: EDC at the plant (0.22 – 0.27 mg/L) exceeded the regulated value (EDC: 0.04 mg/L). Measures to prevent a recurrence have been taken.

(Group Companies)

September 2, Isohara Plant, Nisso Fine Co., Ltd.: 1 corrective recommendation was issued for a clerical error in stating an incorrect name of a wastewater analytical institution. Measures to prevent a recurrence have been taken.
October 20, Iwaki Manufacturing Department, Isohara Plant, Nisso Fine Co., Ltd.: 9 corrective recommendations were issued by the Iwaki Labor Standards Inspection Office and improvement measures have been taken.
November 2, Isohara Plant, Nisso Fine Co., Ltd.: 7 corrective recommendations were issued by the Hitachi Labor Standards Inspection Office and improvement measures have been taken.
November 17, Koriyama Plant, Nisso Fine Co., Ltd.: 1 corrective recommendation was issued by the Koriyama Labor Standards Inspection Office and improvement measures have been taken.

Japan Chemical Industry Association

Third Party Verification Report on Nippon Soda Group CSR Report 2016

Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

Nippon Soda Group CSR Report 2016
Third Party Verification Report

June 14, 2016

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

■Objectives of Verification

The Responsible Care Report Verification was conducted by the Responsible Care Verification Center to verify the Nippon Soda Group CSR Report 2015 (hereinafter referred to as the "CSR Report") prepared by Nippon Soda Co., Ltd. and to present the views and comments of experts in the chemical industry on the following matters:

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

■Verification Procedures

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

■Views and Comments

1) The reasonableness of the methods used to calculate and aggregate performance indicators (numerical values), and the accuracy of numerical values
   - Both the Head Office and Takaoka Plant applied rational methods to calculate and aggregate numerical values. Within the scope of the assessment, the values for performance were accurately calculated and aggregated, for example, based on a comparison with production volumes. We expect that you will continue to consider the adoption of a system to check the accuracy of values reported by each worksite and values aggregated by the Head Office. We also expect that efforts will be made to describe changes in numerical performance values in more detail and make the report easier for readers to understand.
2) The accuracy of reported information
   - It was confirmed that the information described in the reports was accurate. At the draft stage, we pointed out some parts that needed to be improved in terms of the appropriateness of descriptions or the understandability of sentences. In this report, however, these points have been corrected and there is nothing that particularly needs correction.
3) Responsible care activities and CSR activities
   - The Nippon Soda Group started its CSR activities to improve the corporate value in FY 2016 and shared opinions with experts regarding the identification of material issues. We appreciate these efforts you made to improve CSR activities.
   - The number of accidents and problems increased in FY 2016 compared to the previous year. We expect the executive team to take the initiative more strongly in preventing accidents and encourage all employees to join them, with an eye toward the 100th anniversary.
   - Education for new employees was provided at all plants, including the Nisso Takaoka Academy (NTA), hands-on education provided at Takaoka Plant. We expect that rank-based training will also be provided to further promote responsible care activities and CSR activities to ensure more improvement at all the plants.
4) Characteristics of the report
   - We appreciate that the report includes a feature article on four fields in which Nippon Soda is involved among those listed on the 2030 Agenda for Sustainable Development adopted in September 2015.
   - We appreciate that the report on the employee satisfaction (ES) survey is included as in the previous year and expect to receive a report on improvements to be made next year.

Junji Takase

Junji Takase
Chief Director
Responsible Care Verification Center
Japan Chemical Industry Association

Sompo Japan Nipponkoa Risk Management Inc.

Opinion on Property Conservation Survey

Sompo Japan Nipponkoa Risk Management

March 18, 2016
Akira Ishii
Representative Director and President
Nippon Soda Co., Ltd.

Re: Opinion on Property Conservation Survey

Dear Mr. Ishii,

Below is a brief summary and our opinion on the property conservation survey.

The objective of a property conservation survey is to provide recommendations for improvement that are aimed to help enhance the facility's overall disaster prevention level. The recommendations are based on on-site surveys and interviews from the standpoint of six perspectives, including fire risk and fire prevention management,

The survey focuses on the aspects of "surrounding environment", "building construction", "fire risk", "disaster prevention equipment", "fire prevention management", and "natural disaster". This survey also includes a follow-up on the status of recommendations presented during the previous survey.

Surveyed schedule and locations for property conservation survey

2015/6/11-12	Takaoka Plant	Fine Chemicals Group and NBL Group of NISSO BASF Agro
2015/6/23	Chiba Plant	Eco care Unit of Manufacturing 2nd Section
2015/11/17-18	Nihongi Plant	Utility Unit of Specialty Chemicals Section and Joetsu Nisso Chemical, Metal Sodium Manufacturing 2nd Section
2015/5/28-29	Nisso Metal Chemical, Aizu Plant	Environment Sec. 1 and Bandai Sangyo, Dust Treatment Sec.
2015/7/28	Nisso Metal Chemical, Chiba Plant	Manufacturing Section of Manufacturing Division
2015/6/5	Nisso Fine	Iwaki Manufacturing Department

Overall Opinion

- We value the company's practice in regards to CSR and RC (responsible care) activities including establishment of the FY 2015 action goals, improvement of the PDCA cycle, continuous review of the activities and utilization of assessed result in following year's planned activities.
- Nisso Fine Co.Ltd's Iwaki Manufacturing Department was added to the list of survey locations for FY 2015. We value the increase in security and disaster prevention awareness across the group companies.

Our comments and recommendations for improvement for each of the locations are as follows:

1) 【Nippon Soda, Takaoka Plant】We value the plant's installation of various types of gas detector, outdoor foam hydrant, foam nozzles, and fixed foam extinguishing system throughout the facility as a measure against the risks associated with handling of large amount of hazardous items such as specified chemical substances and highly flammable liquids. While static eliminator rods are provided at the connecting walkway, it is recommended to install static eliminator rods at the stairwells inside the production building as well due to the handling of highly flammable liquids.
2) 【Nippon Soda, Chiba Plant】We value the plant's measures against risks associated with the handling of flammable liquids (with flashpoint below 21℃) including installation of water mist firefighting system at various locations and emergency shut-off gate for preventing hazardous materials from flowing into the ocean. While currently automatic fire alarm system inspections are carried out on an annual basis, it is recommended to replace the spare battery before its expiration date.
3) 【Nippon Soda, Nihongi Plant】We value the following safety measures taken by the plant: providing early response smoke detector inside the Instrumentation Room (in replacement of ordinary heat detectors), providing emergency generator for fire pump, and carrying out pump start-up tests monthly. The foam extinguishing agent is expected to be changed in 2016, but the previous replacement date was not documented. Proper documentation and management of replacement dates are recommended.
4) 【Nisso Metal Chemical, Aizu Plant】We value the plant's installation of sprinkler and water spray system at the crushing machine, new pre-treatment pit and other locations. We also value the good practice of having 24 hour monitoring system on-site. Deterioration of the building was observed at a number of locations. It is recommend to addressed these areas during regular repairs.
5) 【Nisso Metal Chemical, Chiba Plant】We value the plant's efforts in establishing an emergency response procedure (including earthquake, power outage and other types of incidents) and conducting two emergency shut-down training annually for the pyrolysis furnace for waste sulfuric acid. However, appropriate pressure range was not marked on the internal pressure measuring device of the waste sulfuric acid receiving tank. It is recommended to mark the appropriate pressure range on this device.
6) 【Nisso Fine, Iwaki Manufacturing Department】We value the plant's risk prevention measures such as locking the hazardous material tank to prevent incidents by suspicious personnel and mischievous acts, and storage of sandbags on-site for emergency measures against leakage in a chemical accident.

Sincerely,

Hidehiro Sumi
Representative Director and President
Sompo Japan Nipponkoa Risk Management Inc.

Third-party opinion from an academic expert

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

Yasuhiro Iye, D.Sc.
Executive director of the Japan Society for the Promotion of Science
Formerly professor at the Institute for Solid State Physics of the University of Tokyo

Profile

Graduated from Department of Physics, Faculty of Science at the University of Tokyo; received a doctoral degree in physics (D.Sc.) from the Graduate School of Science, University of Tokyo; Assistant at the Institute for Solid State Physics, University of Tokyo; Visiting Researcher at MIT, USA; Researcher at AT&T Bell Laboratories, USA; Visiting Researcher at IBM T.J. Watson Research Center in the Leo Esaki Group, USA; Associate Professor then Professor at Condensed Matter Division, Institute for Solid State Physics (ISSP), University of Tokyo; Professor at Division of Frontier Areas Research following the reorganization of ISSP and then Professor at Division of Nanoscale Science upon the division name change; 2008–2012: Director of ISSP; 2011–2012: Director of Section III (Physical Sciences and Engineering), Science Council of Japan (SCJ); 2013–2014: Vice-President of SCJ; Executive director of the Japan Society for the Promotion of Science since October 1, 2015

As with last year, I had the opportunity to offer a third-party opinion of the Nippon Soda Group CSR Report 2016. Last year, I visited Odawara Research Center. On June 17 this year, I visited Chiba Research Center. At Chiba Research Center, I was given an overview of the work being conducted, particularly the research and development of high-function chemical products, and visited the laboratory. It is equipped with all basic facilities including those for chemical analyses, SEM, ESCA and NMR, and I got the impression that all of these are carefully maintained by the responsible personnel. I also visited research and development sites for functional materials including living polymerization, self-assembled monolayer, developers, and inclusion structures, where the Group's strong competencies are fully utilized. The atmosphere at the sites was like that at a university laboratory. I found it favorable that the lab space was not unnaturally tidy. Because it testifies that the researchers are committed to their work and that they did not bother to clean up for the sake of my visit. At the same time, I was deeply impressed with the attention paid to safety measures, including the protection glasses everyone was wearing. After the visit, they gave me a detailed explanation about their CSR activities in the director's room, showing me a draft copy of the CSR report, after which we exchanged views.

At the outset of the CSR Report 2016, they mention social contributions based on chemistry under the slogan of "Chemigress to 100," regarding the year 2020, when they will commemorate the 100th anniversary of their foundation, as the target year. They are planning business expansion in important areas for the future, such as agriculture, medicine, environment, and information. I could see that on this occasion, they are trying to build a consensus across the Group, redefining important issues (materiality) concerning their corporate activities, with "CSR activities to protect the corporate value" and "CSR activities to improve the corporate value" in mind. I found statements for respective items prudent and adequate. I dare say, however, they might be finding it more difficult to establish a direction for their business development in the information domain (probably due to the dizzying rate of change in that field), compared with agriculture and the environment, where they have already achieved abundant results.

I believe that one of the reasons why they expend a lot of effort preparing a CSR report each year is that the process of doing so allows them to reaffirm the path they need to take. I expect that the activities of the Nippon Soda Group will spiral up year by year toward the 100th anniversary.

Response to the third-party opinion from an academic expert

We have traditionally sought out the opinions of third parties with regard to our plants, including RC examinations by the Japan Chemical Industry Association and disaster prevention checks by non-life insurance companies. On the other hand, only a few opinions have been invited about our laboratories. As we did for the Odawara Research Center last year, we again this year therefore requested a third-party opinion from Dr. Iye, an academic who has been engaged in research.

As we understand it, in saying, "One of the reasons why they expend a lot of effort preparing a CSR report each year is that the process of doing so allows them to reaffirm the path they need to take," Dr. Iye gets to the heart of CSR activities and CSR reports. During the process of editing the CSR Report 2016, we needed to select and extract important issues, meaning many activities and discussions had to be left out. Thus, we were able to reaffirm the importance of promoting the activities shown in the CSR Report. We will continue reaffirming the path to take and striving to ensure that the CSR activities of the Nippon Soda Group will spiral up steadily toward the 100th anniversary of our founding.

Masahito Ikeda, Ph.D.
Executive Officer, General Manager,
Corporate Social Responsibility Department, Nippon Soda Co., Ltd.

This report is prepared in accordance with the core section of the GRI G4 Sustainability Reporting Guidelines (Version 4).

General Standard Disclosures ● : Required contents disclosures in accordance with the Core

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●	G4-7	The nature of ownership and legal form	2
●	G4-8	The markets served	5, 6, 15-22
●	G4-9	The scale of the organization	2, 83-90
●	G4-10	The breakdown of the employees	2
●	G4-11	The percentage of total employees covered by collective bargaining agreements	36
●	G4-12	The organization's supply chain	81-90
●	G4-13	Any significant changes during the reporting period	2
●	G4-14	Whether and how the precautionary approach or principle is addressed by the organization	7-8
●	G4-15	Externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	64
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●	G4-31	The contact point for questions regarding the report or its contents	Back cover
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