Nisso NIPPON SODA CO.,LTD.

Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

Nippon Soda Group

CSR Report 2014

Creating New Value through the Power of Chemistry

NISS

The basic policy of the Nippon Soda Group is to contribute to society through our business activities using technologies, expertise and human resources that we have developed since our founding, as we improve the general public's confidence and trust in us.

Editorial Policy

The CSR Report 2014 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.

Guidelines Used as References

The Japanese Ministry of the Environment's Environmental Reporting Guidelines 2007
Japanese Standards Association ISO 26000: 2010 Guidance on Social Responsibility

Publication Date

July 2014
(Next report scheduled to be issued in July 2015)

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 2013 (April 1, 2013 to March 31, 2014). The data on occupational accidents presented in this report are based on the actual results from January 1, 2013 to December 31, 2013.

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).

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Nippon Soda Group CSR Report 2014

Responsible Care

Responsible Care (RC) was launched in 1985 in Canada. In 1989, the International Council of Chemical Associations (ICCA) was established and, as of March 2014, 57 countries 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 2014, the committee has a membership of 106 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.

Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

Corporate Profile (as of the end of March 2014)

Name: Nippon Soda Co., Ltd.

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

Foundation: February 1920

Representative Director, President: Yutaka Kinebuchi

Representative Director, Senior Executive Managing Officer: Eiji Ito

Stock Listing: Tokyo Stock Exchange, First Section

Capital: 29,166 million yen

Number of Employees:
2,501 (consolidated), 1,207 (non-consolidated)

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

Yutaka Kinebuchi
Representative Director, President
Nippon Soda Co., Ltd.

Making the Dreams of the Next Generation Come True

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

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.

Please share with us your views on the driving forces behind the group's CSR activities and their expected outcomes.

The year 2020 will be the 100th anniversary of Nippon Soda Co., Ltd. Our efforts are currently focused on achieving "Chemigress to 100,"[1] our long-term vision that looks toward the centenary. One of our major efforts is the implementation of CSR activities.

Through our CSR we aim to make broad contributions to society by providing a constant stream of new safe and useful products and services, focusing mainly on fundamental areas such as agriculture, medicine, the environment and information. Another aim is to improve the value of our company by increasing our presence on the international stage as an indispensible chemistry-oriented corporate group that is conscious of the global environment and CSR.

As a chemical manufacturer, we have accumulated a considerable amount of technology and expertise. We believe that the effective utilization of this technology and expertise will improve our competitiveness. We also believe that expectations for chemical companies to contribute to society through corporate activities will surely increase. Put another way, only companies that provide products that are desired by society and thereby contribute to society will enjoy continued growth.

What do you think are the most essential elements in promoting CSR as a chemical manufacturer?

We have been promoting responsible care activities since 1998. As a chemical manufacturer seeking to maintain harmonious relations with the broader society, we prioritize activities in the following seven core categories: environmental protection, occupational safety and health, process safety and disaster prevention, chemicals and product safety, distribution safety, dialogue with society and management system.

Because we deal with hazardous materials, it is our responsibility to ensure safe and stable production, environmentally sustainable production activities and safe distribution. The Nippon Soda Group has developed its own CSR management system with the aforementioned responsible care activities at its core. From fiscal 2014, we have expanded the scope of our CSR policy to include group companies.

What kind of company do you think Nippon Soda should aspire to become in order to raise its international profile?

Our lineup of world-class products have long been trusted and supported by numerous customers overseas, indicating that the sustainability of our business has achieved a certain level of international recognition. Our strength lies in our constant alertness toward ever changing needs in terms of prices, quality, performance and other factors as well as our ability, in cooperation with our overseas production and sales sites, to respond to various global needs in a timely manner.

We will draw attention to our presence on the international stage by implementing both short- and long-term measures to meet the needs of the next generation.

What do you expect from employees in order to help the next generation fulfill its dreams?

To put our products on the market, we must guarantee that they are safe for both humans and the environment during every stage of their life cycle, from ingredient sourcing through to manufacturing, distribution and use. We have input a great deal of manpower and time to accumulate the required technologies and expertise to make this guarantee. Because technology advances on a daily basis, we are expected to guarantee the safety of new products developed using cutting-edge technologies as well as technologies with which we have no experience.

The Nippon Soda Group believes that in order to fulfill the aspirations of the next generation, we should be always ready to take on new challenges while at the same time remaining alert to even the slightest possibility of danger in order to maintain safety.

We are determined to increase our value by becoming a globally competitive corporate group that is highly motivated to take on new challenges so that we can successfully continue to grow into the future.

1. The term "**Chemigress**" is a combination of "**chemi**cal" and "pro**gress**."
   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."

Creation of the Value of the Nippon Soda Group

Nippon Soda's business

Chemicals

Since our foundation in 1920, we have supplied various kinds of basic chemicals, starting mainly with caustic soda and chlorine. Our product variation has increased as Japanese industries have become more developed so that at present our product line 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 array of chemicals, such as pharmaceuticals, functional chemicals and environmental chemicals.

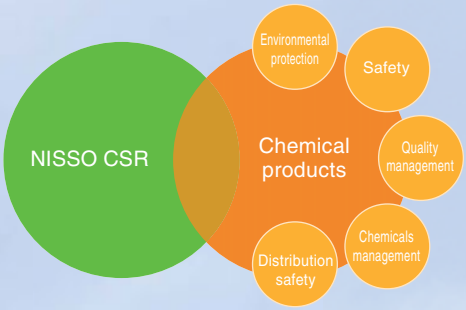
Agro products

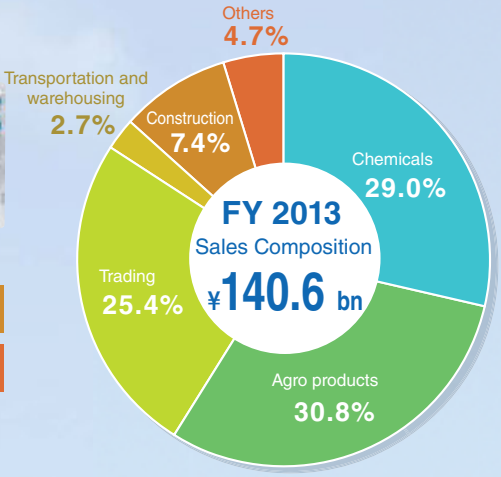
Nippon Soda has been supplying various kinds of safe and effective agrochemical products since the launch of our agrochemical business in the 1950s. Nabu, a crop herbicide that was launched in 1981, is registered now in about 70 countries around the world. Topsin M, a long-selling fungicide launched in 1971, is widely used for treating fruit trees and vegetables. In the insecticide and miticide field, we focused largely on developing miticides until 1995, when we launched Mospilan, an insecticide that is highly effective in exterminating various kinds of pests, including hard-to-control species. The product has been well received around the world.

Trading | Construction

Transportation and warehousing | Others

Value creation model





1913
- Founder Tomonori Nakano received a patent for the production of caustic soda via electrolysis.

1920
- Nippon Soda Co., Ltd. was established (with capital of ¥750,000).
- Nihongi Plant began operation.

1934
- Takaoka Plant began operation.

1949
- Listed on the Tokyo Stock Exchange.

1954
- Awarded the 4th Deming Application Prize for improvement in quality management.

1959
- Biological Research Laboratory was established in Oiso Town, Kanagawa Prefecture. (Merged into Odawara Research Center in 1984)

1964
- Received the 10th Okochi Memorial Technology Award for TDI.

1969
- Topsin, a fungicide, was developed and put into production.
- Mizushima Plant began operation.
- Agrochemical Synthesis Research Laboratory was established in Odawara City, Kanagawa Prefecture. (Later reorganized into the Fine Chemical Laboratory)

1971
- NISSO-PB received the Award of the Society of Polymer Science.

1976
- Topsin and Topsin M received the 22nd Okochi Memorial Award and the Prime Minister's Award.

1913 1951 1955 1960 1965 1970 1975 1980 1985

The Ideal Company that Nippon Soda Aims to Become

Long-Term Vision —Chemigress to 100—

Nippon Soda aims to become a company that:
Focuses mainly on areas essential for the development of a sound society, such as agriculture, medicine, the environment and information, and provides a constant stream of new safe and useful products and businesses, thereby making tremendous contributions to society.

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

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

Stage II

FY **2016** targets

New Medium-Term Business Plan
(FY 2013 to 2016)

Net sales
160 billion yen

Operating income
10 billion yen

Net income
9 billion yen

Stage III

2020 targets

Long-Term Vision
(FY 2017 to 2019)

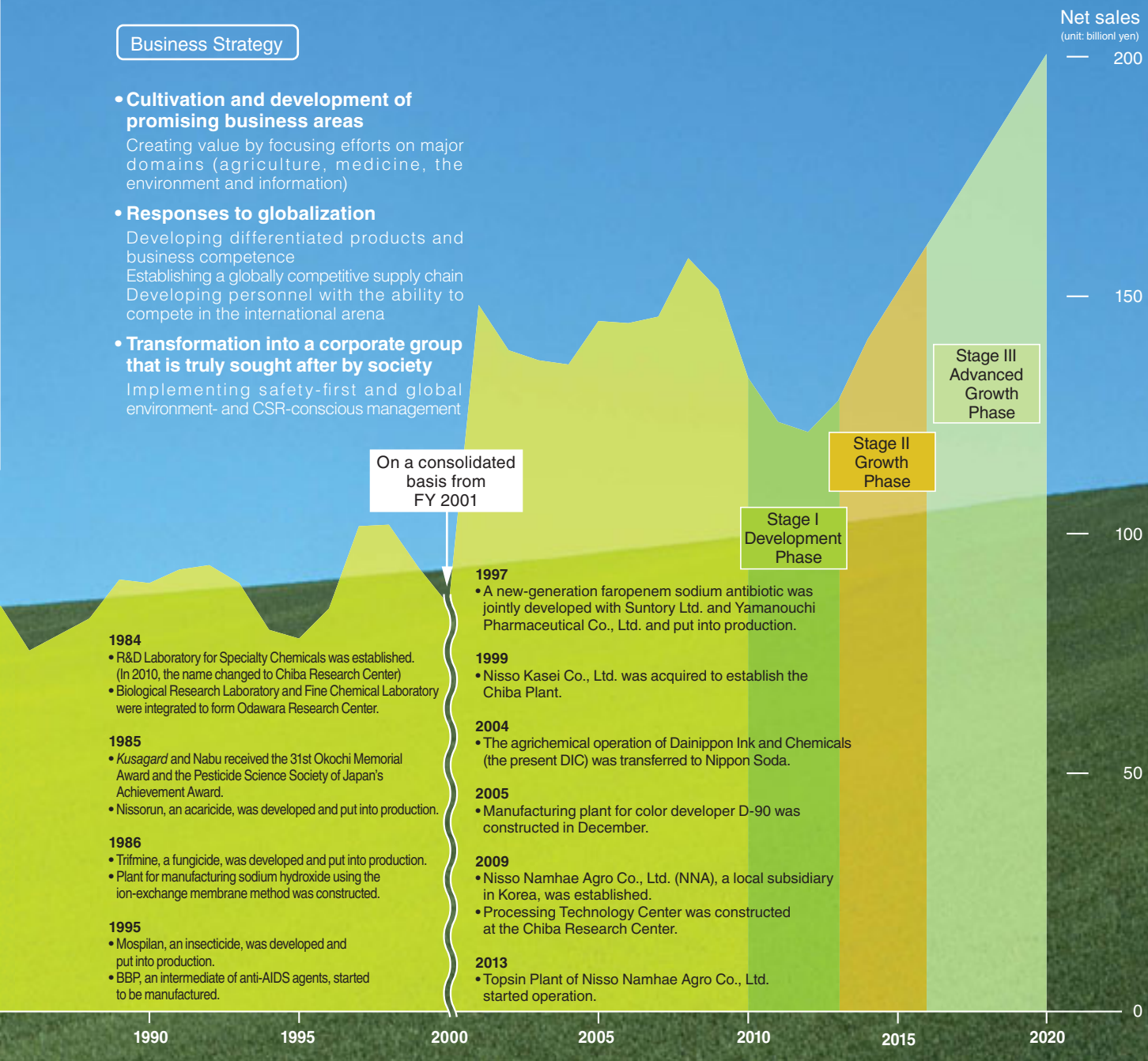
Net sales
200 billion yen

Operating income
20 billion yen

Net income
10 billion yen

Business Strategy

- **Cultivation and development of promising business areas**
  Creating value by focusing efforts on major domains (agriculture, medicine, the environment and information)
- **Responses to globalization**
  Developing differentiated products and business competence
  Establishing a globally competitive supply chain
  Developing personnel with the ability to compete in the international arena
- **Transformation into a corporate group that is truly sought after by society**
  Implementing safety-first and global environment- and CSR-conscious management



1984
- R&D Laboratory for Specialty Chemicals was established. (In 2010, the name changed to Chiba Research Center)
- Biological Research Laboratory and Fine Chemical Laboratory were integrated to form Odawara Research Center.

1985
- *Kusagard* and Nabu received the 31st Okochi Memorial Award and the Pesticide Science Society of Japan's Achievement Award.
- Nissorun, an acaricide, was developed and put into production.

1986
- Trifmine, a fungicide, was developed and put into production.
- Plant for manufacturing sodium hydroxide using the ion-exchange membrane method was constructed.

1995
- Mospilan, an insecticide, was developed and put into production.
- BBP, an intermediate of anti-AIDS agents, started to be manufactured.

1997
- A new-generation faropenem sodium antibiotic was jointly developed with Suntory Ltd. and Yamanouchi Pharmaceutical Co., Ltd. and put into production.

1999
- Nisso Kasei Co., Ltd. was acquired to establish the Chiba Plant.

2004
- The agrichemical operation of Dainippon Ink and Chemicals (the present DIC) was transferred to Nippon Soda.

2005
- Manufacturing plant for color developer D-90 was constructed in December.

2009
- Nisso Namhae Agro Co., Ltd. (NNA), a local subsidiary in Korea, was established.
- Processing Technology Center was constructed at the Chiba Research Center.

2013
- Topsin Plant of Nisso Namhae Agro Co., Ltd. started operation.

Agro Products Division

Agricultural Chemicals Well Received by People around the World

Discovery and development of agricultural chemicals starting from “needs” and “seeds”

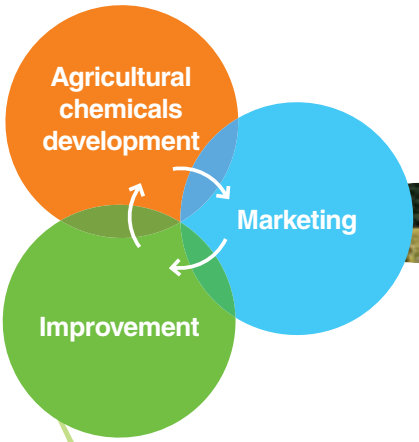
There are both minor and major “needs” for agricultural chemicals. They stem from concerns and issues facing farmers.

“Seeds” here mean substances and findings, based on which researchers start their investigations for drug discovery. Seeds include information provided in scientific journals and patent documents and information obtained from presentations at academic conferences and symposiums. When a researcher finds an interesting bioactivity in a seed, a study to optimize the seed so as to create an agricultural chemical is started.

We then identify needs that meet seeds, or improve seeds to meet needs, with the aim of commercialization. This is the process that is most important in developing agricultural chemicals and it requires creative input. Despite obstacles that may present themselves, we aim to develop products effectively and speedily using our research system, which enables us to undertake everything from basic research up to field tests in a comprehensive manner. In doing so, we make the best use of the expertise we have accumulated over many years.

Reasons for our products’ best-selling status

We consistently develop agricultural chemicals that are well received by the global market.



Responses to social needs
Problem solving
Compliance with standards in different countries

Topsin® M
wettable powder
One of the representative benzimidazole-type fungicides discovered and developed by Nippon Soda. It has been sold for over 40 years and used as a basic fungicide for fruit trees, vegetables and field crops.

Pancho® TF
water-dispersible granules
A fungicide containing cyflufenamid and triflumizole that is highly active against powdery mildew. It has both excellent preventive and curative actions.

Mospilan®
water-soluble granules
A neonicotinoid-class insecticide containing the active ingredient acetamiprid. With its wide spectrum of insect control, it is registered for use on more than 100 types of crops. It is less toxic to pollinating insects such as honeybees and bumblebees.

Consideration for biodiversity

Development starts with an appreciation of the coexistence among fungi, insects and weeds

In nature, diverse organisms live together as part of an interdependent web, relying on each other both directly and indirectly. In complex ecosystems, they coexist in a balanced way. If an ecosystem is destroyed by the use of nonselective chemicals that inhibit the growth of a large number of living organisms, unexpected outcomes can occur and it may take a long time to restore the ecosystem to its original state. It is therefore important to minimize environmental impacts by using chemicals that only target (prevent and exterminate) fungi, pests and weeds that damage crops in order to maintain biodiversity. Nippon Soda is engaged in developing new highly selective agricultural chemicals that are safe for crops, animals, non-harmful insects and earthworms.

Hiroshi Hamamura
Manager, Department of Field Research
Odawara Research Center

Competitive quality, novelty, reliability and sustainability of our products that are well received on the international market

Nippon Soda has developed agricultural chemicals with a high level of novelty that have been marketed in Japan and around the world. These include Topsin M (fungicide), Trifmine (fungicide), Pancho (fungicide), Mospilan (insecticide), Nissorun (acaricide) and Nabu (herbicide). With the purpose of providing proprietary products globally, we first established local subsidiaries in the United States (New York), Europe (Dusseldorf) and then Brazil (Sao Paulo) in 2000, China (Shanghai) in 2004 and Korea (Seoul) in 2007. These subsidiaries are engaged in maintaining product registrations, marketing products and collecting relevant information. Changes in crop varieties and even slight changes in the environment can lead to the emergence of new types of pests and weeds. Despite such changes, we have continued to supply our products, including relatively old products such as Topsin M and Nissorun, in cooperation with overseas local subsidiaries and have successfully built trust with our customers.

Shinsuke Sano
Executive Officer
General Manager, Odawara Research Center

Nissorun®
wettable powder

A strong acaricide that was discovered and developed by Nippon Soda entirely in Japan. With its strong ovicidal effect and high residual effect, it is also effective against various types of spider mites. Nissorun is well received by overseas customers as well.

Nabu®
EC*

A chemical compound with the cyclohexanedione structure that was discovered and developed by Nippon Soda. Used to control grass weeds in broad-leaved crops, this herbicide can be sprayed over foliage in the post-emergence period. It has strong selective actions against grass weeds and continues to be well received by customers.

* Emulsifiable Concentrate

Products and characteristics

Long sellers

New strategy for pest control
Mospilan water-soluble granules

Mospilan water-soluble powder has been selling well since its registration as an agricultural chemical product almost 20 years ago in November 1995. In 2011, we launched a new product, Mospilan water-soluble granules, which inherits the outstanding features of the water-soluble powder, such as high insecticidal efficacy, a wide range of target pests and crops, and safety to beneficial insects such as honeybees. This new product has been well received for its reduced propensity to be blown away and its ease of use.

New product

Biofungicide
Masterpiece wettable powder

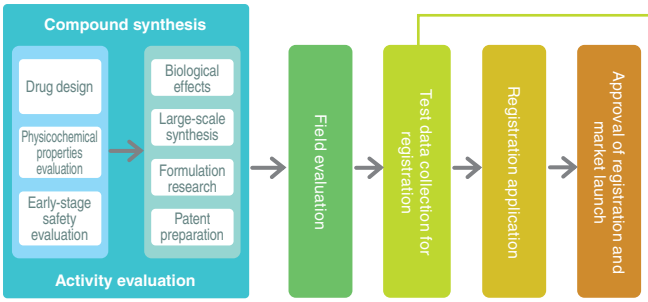
Masterpiece wettable powder is a biological fungicide featuring as its active ingredient the HAI-0804 strain of *Pseudomonas rhodesiae* isolated from leaves of lettuce grown in Nippon Soda's research field. It demonstrates preventive effects largely against soft rot in potatoes and other vegetables, bacterial canker in citrus, bacterial leaf spot in peach and nectarine, and other bacterial-disease-related damage. This product helps achieve environmentally friendly agricultural production.

Agro Products Division

Agricultural Chemicals Well Received by People around the World

Nippon Soda's evaluation system for agricultural chemicals is a valuable asset

Research system that ensures safety and efficiency



Types and details of test data for registration

1 Drug efficacy study	To demonstrate efficacy in the target crop
2 Crop selectivity study	To demonstrate non-phytotoxicity to the target crop itself
3 Short-term toxicity study	To study impacts on users when the compound is used in accordance with the indicated method
4 Residue study	To study the amount of residue remaining when the compound is used in accordance with the indicated method
5 Chronic toxicity study	To study impacts on consumers if they use chemical residues on crops
6 Environmental chemistry study	To study impacts on organisms living in soil and rivers with which chemical residues come into contact
6 Ecotoxicity study	

Of the tests above, it is required to collect data on 1, 2, 4 and 6 in each country where we want to register a product. Under our system, research departments work together to meet these requirements.

The value of an agricultural chemical is determined by its efficacy. It is very important to correctly and accurately evaluate the efficacy of a newly synthesized candidate for an agricultural chemical in order to develop a new product. We perform efficacy evaluation tests repeatedly as part of regular reviews of the types of crops and pests targeted. To discover safe agricultural chemicals, we evaluate both efficacy in controlling pests and weeds as well as safety to humans and the environment. Based on our own evaluation system, we will continue to focus our efforts on developing new agricultural chemicals that meet the needs of society and contribute to addressing global issues.

The Nippon Soda Group complies with strict domestic and international criteria

"Pesticide registration systems" and "compliance with guidelines"

Japan, the United States, the EU and many other countries have their own pesticides registration systems. To sell agricultural chemicals in these countries, we must conduct numerous types of studies required by each country's regulatory authorities in accordance with relevant guidelines and submit the data for evaluation. Products that are approved for safety based on these study data then have to be registered before being put on the market.

In addition to studies to prove safety to humans, various types of studies on the impacts on biological organisms are required in order to register agricultural chemicals. These studies are costly in terms of both time and money and, in recent years, the requirements for these tests have been increased. Our agricultural chemical products that meet all of the requirements have been approved for marketing in many countries around the world.

Guidelines

1. Guidelines for Residual Agricultural Chemicals
2. Chemical-Free Guidelines
3. Guidelines for Testing of Agricultural Chemicals
4. GLP Guidelines for Agricultural Chemicals
5. Microbial Pesticide Guidelines
6. Test Guidelines for Agricultural Chemicals

Safety ensured for all humans, local environments and ecosystems

Topsin M, a long-selling product on the market for over 40 years

The active ingredient of Topsin M is thiophanate-methyl, which is also used as the only active ingredient for such products as Topsin M wettable powder, Topsin M powder, Topsin M powder DL, Topsin M sol and Topsin M paste. Thiophanate- methyl is also used in blends with other active ingredients in many other agricultural chemical products.

The formulations of these products are designed to ensure higher safety and usability as well as reduce negative environmental impacts while maximizing the effects of active ingredients. For example, we apply the form of water-dispersible granules to minimize the propensity of the product to be blown away in comparison with conventional wettable powder. Efforts will be continued to develop products for new applications in order to meet market demands.

Yuichi Maekawa
Manager, Department of Formulation Research
Odawara Research Center

Special features unique to Nippon Soda

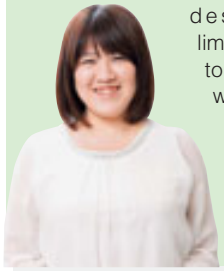
Point Emphasis on proprietary products

Our focus in product development is not only on fields with high marketability but also on niche fields so that we can address concerns and issues at agricultural production sites. To provide unique products that stand apart from those of other companies, it is important that we conduct our own research and development. We hope to contribute to agricultural production by providing products differentiated by our proprietary research and development expertise.

Takayuki Okamoto
Manager, Development Department
Agro Products Division

Point Maintaining efficacy and increasing registered uses

Organisms have evolved to be resilient. This means they gradually develop resistance against the effects of new active ingredients, reducing the efficacies of the ingredients. We develop measures to address such resistance and continue the research and development of combination formulations that are designed to compensate for the limitations of each active ingredient so as to achieve sufficient efficacy against a wide variety of pests in different crops.



Chiharu Todaka
Domestic Registration Section
Regulatory Affairs Department
Agro Products Division

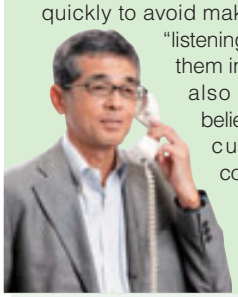
Point Capabilities to develop long-selling products

So that they can be used against newly emerging pests and weeds, our products are designed to be applied via a variety of methods and to be effective against a variety of pests. We also register our products in many different countries. Through these efforts, our products remain on the market for many years. In line with this approach, our research centers will continue to focus their efforts on exploratory research in order to discover and develop new products that will be used by a multitude of people around the world, such as Topsin M and Mospilan.

Chinami Yokota
Manager, Development Department
Agro Products Division

Point We value customers' comments

We receive and respond to about 2,000 telephone inquiries from customers, ranging from non-specialists who are using agricultural chemicals for the first time in their kitchen gardens to specialists, including professional farmers, retailers and specialized organizations. With an emphasis on customer satisfaction, we place a high priority on "answering phones quickly to avoid making callers wait unnecessarily" and "listening carefully to questions and answering them in an easy-to-understand manner." We also receive complaints by phone. We believe that our most important role is to use customers' comments, including complaints, to improve our products.



Hideyuki Kiuchi
Vice Manager, Technical Services Department
Agro Products Division

Comments from customers

Mospilan protects apples from pest damage

Mospilan is effective against a wide range of pests, from aphids to caterpillars. I think Mospilan is not only highly effective but also very economical. Because it can be used at dilution ratios ranging from 1:2000 to 1:4000, we can select the best ratio taking soil, climate and various other conditions into account. Thanks to the low level of impact on honeybees and other beneficial insects, we can protect and preserve our important local environment for the next generation. Mospilan is very useful in supplying safe and delicious apples to the market without using unnecessary chemicals.

Furthermore, when the formulation was changed from a water-soluble powder to water-soluble granules, the safety level increased. Also, as is obvious from the fact that Mospilan is registered for use on a wide variety of fruit trees and crops, there is less risk of "drift[1]," which makes me feel safer.

I will continue to use agricultural chemicals effectively to address changes in the production environment in order to produce safe and delicious apples.

Yuji Hirai
Hirosaki, Aomori

1. Sprayed agricultural chemicals sometimes reach crops other than the target crop. This phenomenon is called "pesticide drift" or simply "drift." If a sprayed agricultural chemical product lands on an unintended crop that is not registered as a target crop of the particular product, a "non-registered agricultural chemical" will be regarded as having been used.

Chemicals Business Division

Reasons for being Constantly Selected

HPC, an essential excipient for the pharmaceutical formulations

Have you ever seen the name of the excipient Hydroxypropyl Cellulose (HPC) written on the patient information leaflet?

Pharmaceutical tablets consist of not only active ingredients but also various excipients to adjust their size, concentration and mask their bitter taste, as well as to prevent deterioration.

Among such excipients, NISSO HPC is winning an excellent reputation from researchers as a highly effective binder with strong binding force and a high level of safety.

HPC is expected to grow as an essential excipient for the manufacturing of pharmaceuticals.

Memo

Hydroxypropyl cellulose (HPC) developed by our company is used in more than a thousand pharmaceutical products such as tablets, powders and granules.

"NISSO HPC" with high quality

Compliant with GMP for Pharmaceutical Excipients

Nippon Soda, the only supplier of HPC in Japan, has been marketing HPC products in numerous countries around the world under the brand name "NISSO HPC" since commercialization of the substance in 1967.

Our HPC manufacturing plant has been audited by pharmaceutical companies, government authorities and the Japanese Pharmaceutical Excipients Council, an industry association whose members consist of excipient manufacturers. These audits have resulted in high ratings, particularly for its high level quality control. In addition, the plant voluntarily complies with GMP for Pharmaceutical Excipients[1] and its facilities and management systems meet the requirements of the cGMP[2] for quality control, which requires higher standards than those of the GMP.

We believe that this high-level quality control system has contributed to gaining customer's loyalty towards our products over the decades. Customer's trust in the quality of the product, supports the NISSO HPC brand significantly.

1 A standard used by the Pharmaceutical Excipients GMP Review Board to evaluate and certify pharmaceutical excipient manufacturers. Its objectives are to ensure the quality of Japanese pharmaceutical excipients and to enhance trust in Japanese companies that manufacture pharmaceutical excipients.
2 The current Good Manufacturing Practices (cGMP) regulations are standards for the manufacture and quality control of pharmaceuticals and relevant products that were first developed by the U.S. Food and Drug Administration (FDA) in 1938 based on the Federal Food, Drug and Cosmetic Act (FFDCA). Each country has its own standards complied with the cGMP regulations. Japan, for instance, has the Quality Control Standards for pharmaceuticals and relevant products defined by the Minister of Health, Labour and Welfare based on the Pharmaceutical Affairs Law.

Products and characteristics

Long seller product

One of our HPC grades is slow water-soluble. Tablets containing this type of HPC release the active ingredient slowly in the stomach and intestines. This enables to keep concentration of the active ingredient in the blood at a certain level and prevents side effects caused by the excessive absorption of the active ingredient. Moreover it helps to reduce the amount of daily drug intake. Eventually it contributes to improve the patient's quality of life (QOL)[3].

New product

HPC Super Fine Powder, a highly compressible grade of HPC, was introduced and has become popular with customers. With a very fine particle and low molecular weight, this grade imparts the expected HPC advantages in tablet hardness at very low usage amounts and faster dissolution compared to regular HPC.

3 Quality of life (QOL) generally refers to quality of life at both the individual and societal level. For individuals it is measured based on how good a person's life is, whether he/she is living the life they want, and his/her level of happiness.

Reasons for being selected

Possible to develop various applied agents

HPC is a highly functional excipient available with various grades. It can be used for a variety of different applications such as orally disintegrating tablets that dissolve quickly without water, and control release formulations that gradually release active ingredient into the stomach or intestines.

Highest penetration rate in the domestic market

HPC is one of the most popular binders in pharmaceutical excipients. It is used by numerous pharmaceutical companies as their first-choice binder.

Differentiated by unique quality

Supported by the results of audits conducted by numerous users as well as a high level of cGMP-compliant quality control, NISSO HPC's brand image is advantageous in increasing the product's competitiveness.

A wide variety of options

In addition to the existing nine grades, a new product Super Fine Powder was introduced in 2012. Having a wide variety of options makes HPC the first-choice excipient.

Kunihito Ito
Manager
Pharmaceutical Chemicals Section
Specialty Chemicals
Business Department
Chemicals Business Division

Development of products to be chosen

Running toward global share increase

Sales

In pharmaceutical formulation, there are multiple methods for preparing tablets, depending on the properties of the main ingredients. There are more than 200 types of excipients to choose from.

To meet the numerous methods of formulation, in 2012 we started full-scale production of a new "Super Fine Powder" product in addition to the existing nine HPC grades. The new product has been successfully recognized as a high-functioning dry binder.

As pharmaceutical markets are expanding globally, we have gradually increased the production capacity of HPC. The demand for HPC has increased significantly, particularly in overseas markets, resulting in an export ratio of more than 50%. In order to meet robust demand expected in the future, we are planning to increase the production capacity of the HPC from the fall of 2014.

Export ratio ≥50%

10 brands of unique excipients

Expansion "NISSO HPC" to the food industry

Because of its high safety and excellent functionality, NISSO HPC can also be used in food processing. We launched the CELNY brand for food use. CELNY is highly effective in producing supplement tablets such as turmeric, glucosamine, mulberry leaves and other natural ingredients that are difficult to compress into tablets. CELNY is also effective in adjusting viscosity, stabilizing bubbles and improving food texture. Thanks to these functions, its use is expanding in, for example whipped cream stabilizers.

Kenji Sugisawa
Manager, Pharmaceutical Chemicals Section
Specialty Chemicals Business Department
Chemicals Business Division

Chemical Business Division

Reasons for being Constantly Selected

Hi-chlon

Nisso Hi-chlon, an essential inorganic chlorine disinfectant

In accordance with the water quality standards established by the Ministry of Health, Labour and Welfare, the sanitary quality of water used in public baths and swimming pools in Japan must be maintained at a certain level in order to prevent the spread of infectious diseases. Nisso Hi-chlon plays an important role in controlling water quality. Highly effective across a wide range of purposes, including sterilization, disinfection, bacteria elimination, bleaching and deodorization, the product's effective chlorine concentration is as high as over 70%, meaning only about one-sixth of the handling amount of liquid sodium hypochlorite (effective chlorine 12%) is needed. Moreover, it maintains a pH in the neutral range and can be used with less concern about acid-initiated corrosion and erosion of equipment. For these reasons, Hi-chlon has long been a popular product. Nisso Hi-chlon is mainly used for disinfecting swimming pools, public baths and drinking water as well as tableware, cooking utensils and fruit and vegetables. As such, it helps create a comfortable and safe living environment.

Nisso Hi-chlon for swimming pools

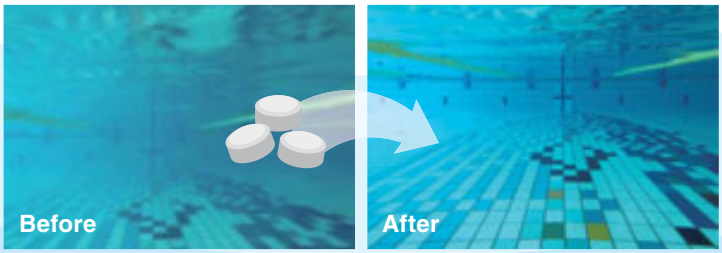
Nisso Hi-chlon TB-200

A 200-gram pharmaceutical grade tablet developed exclusively for consecutive chlorine injectors for swimming pools (Nisso Hi-chlonator N, S and B). Because it is a large-size tablet, it is easy to control free residual chlorine. Nisso Hi-chlon is also available in 20- and 100-gram tablets as well as in the form of granules that can be added to swimming pools directly.

Value-added development and patents to respond to social needs

We are constantly listening to our customers and focusing on developing and improving products in order to fully meet their needs. An example of this is our new product, Nisso Hi-chlon HB-200, which was developed specifically in response to customer requests.

The number of people joining a gym or fitness center in order to train their body or maintain their health is increasing. Among such people, swimming is a popular activity. We developed Nisso Hi-Chlon HB-200, which removes cloudiness from swimming pool water without the use of coagulants, to make it easy for large numbers of people to enjoy swimming in clear and clean water. We will continue our efforts to further improve Nisso Hi-chlon so as to respond to further challenging requests from our customers.



As times change, needs become greater

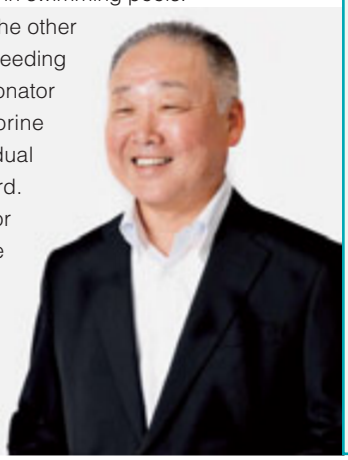
Nisso Hi-chlon is well received and widely used right around the world. Besides disinfecting swimming pools, it is used for various purposes including disinfecting drinking water and seawater used in shrimp farming as well as bleaching fabric. This versatility has made it a very popular product overseas.

Guided by the motto, "Products that anyone can use easily and safely," we will make even greater efforts to make this product available throughout the world.

Masahiro Yasuda
Manager, Environmental Protection Section
1st Environmental Chemicals Department
Chemicals Division

Advantageous feature of Nisso Hi-chlon

There are two methods for using Nisso Hi-chlon in swimming pools. One is direct addition to swimming pools and the other is injection via the Nisso Hi-chlonator. Without needing to be connected to a power source, the Hi-chlonator provides the simple function of controling chlorine concentration, enabling it to maintain free residual chlorine concentrations within a given standard. Available in different types, such as a model for indoor use and another for automatic use, the Hi-chlonator makes it easy to ensure that the right amount of agents are supplied, depending on the characteristics of the swimming pool.



Mitsuo Takamine
Manager, 1st Environmental Chemicals Department
Chemicals Division

For the correct use

We provide seminars, brochures and online information on how to use Hi-chlon safely. Please visit our company website and gakkoupool.com (website providing information on the management of school swimming pools) for detailed information.

The largest share in Japan

To maintain the largest market share in Japan, we need to improve our relationships with stakeholders.

Nisso Hi-chlon is delivered to customers by our distributors. We go with our distributors to meet with school personnel to explain how to use Nisso Hi-chlon in order to forge stronger bonds with them.

By listening to and learning from our customers, we continue to improve our products and provide products that satisfy customer needs.

Yoshiaki Matsuyama
Manager, Environmental Protection Section
1st Environmental Chemicals Department
Chemicals Division

Briefing prior to a seminar on how to use Hi-chlonator

Takashi Yoshihara
Vice Manager, Environmental Protection Section
1st Environmental Chemicals Department
Chemicals Division

Tsuyoshi Narita
Vice Manager, Environmental Protection Section
1st Environmental Chemicals Department
Chemicals Business Division

Customer comments

- Hi-chlon is very easy to use because it is not necessary to adjust pH.
- I use the Hi-chlonator to prevent children from coming into contact with Hi-chlon. It's safe.
- Since we started using Hi-chlon the water has become so clean that our customers are asking if we changed the water.

Sales through direct contact with customers

Hi-chlon is used for a number of familiar, everyday purposes. It is important for us to build trust-based relationships with customers to ensure long-term customer loyalty. We constantly work to improve our products by listening to customers.

Nippon Soda's CSR Activities

Message from CSR Officer

Eiji Ito
Representative Director
Senior Executive Managing Officer
Nippon Soda Co., Ltd.

Nippon Soda was awarded the Deming Prize in 1954. In the years since 1995, it subsequently acquired certifications for ISO 9001, ISO 14001 and OHSAS 18001. Over this period, the company has established management systems for quality, the environment, and safety and health and has made efforts to improve the systems by implementing the PDCA cycle.

In 1998, we integrated these management systems and started implementing responsible care activities to promote our voluntary efforts to ensure process safety and disaster prevention, distribution safety, chemical and product safety, and social dialogue.

In 2012, as one of the major pillars of the Medium-Term Business Plan, we introduced CSR activities in order to globalize our business, exercise social responsibility and contribute to society through business activities. This has completed the creation of a system to place more emphasis on the seven principles of social responsibility: 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.

In this report, we provide details of our achievements in the area of CSR over these past two years in order to get your feedback and opinions on our activities. We will start to implement CSR activities across eight Nippon Soda Group companies from fiscal 2014.

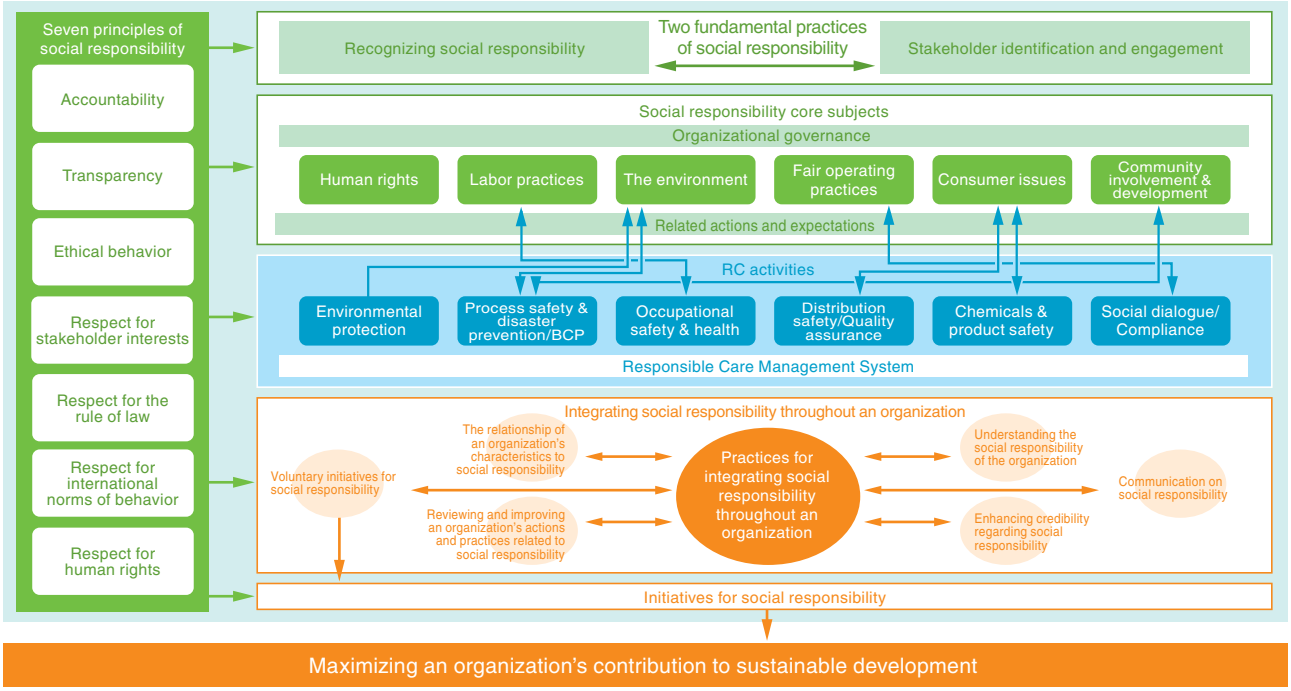
As a trusted partner of society, the Nippon Soda Group through its business activities will continue to make contributions in response to changes in the social landscape and the trend toward globalization by making effective use of its skills, expertise and human resources.

The Nippon Soda Group's CSR

The CSR activities of the Nippon Soda Group include all of the responsible care (RC) codes (activity items).

The conceptual diagram of CSR below outlines the relationship between CSR and RC, with RC promotional activity codes shown in blue. As indicated by the arrows, the core subjects (activity items) of CSR are closely interrelated with the RC codes.

The Nippon Soda Group integrates these activity items and determines the eight policies described on the next page.



Policies and Promotion System

Policies

1 Management system RC and organizational governance CSR

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 RC CSR

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 RC /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 healthn RC

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

5 Distribution safety RC , quality assurance and consumer issues CSR

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 RC

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.

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

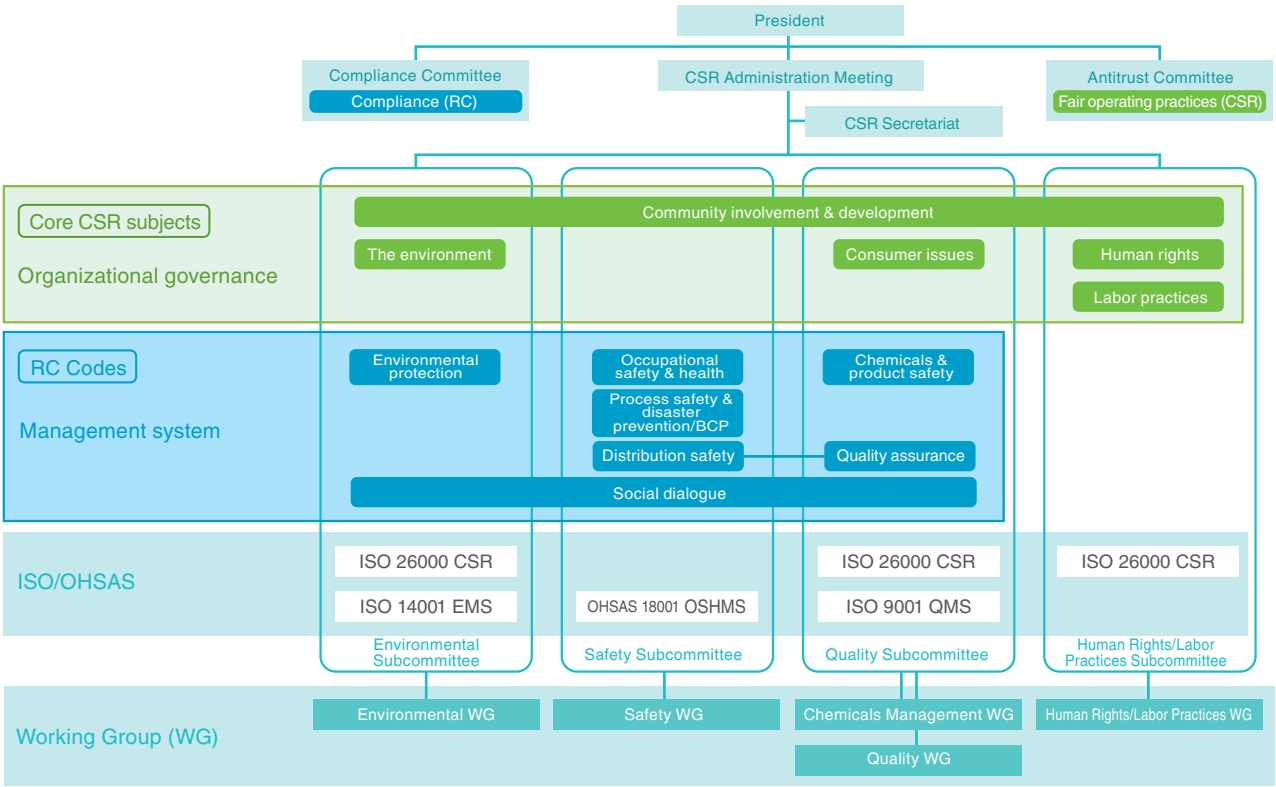
We will make efforts to improve the general public's confidence in us by participating in various environmental protection and safety activities and proactively engaging in dialogue with stakeholders regarding the effects of chemical substances on safety, health and the environment. We will comply with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

8 Human rights CSR and labor practices CSR

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.

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, operating officers and worksite managers.



New Medium-Term CSR Goals

1. Management system RC and organizational governance CSR

	Goal	Proper implementation
	Actions	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

2. Environmental protection RC CSR

(1) Environmental abnormalities	Goal	Zero events
	Actions	Establishment of a system to prevent environmental abnormalities from occurring
(2) Energy		
1) Energy use per unit of production	Goal	Annual average improvement of 1%
	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 average improvement of 1%
	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) Waste		
1) Amount of final disposal at landfills	Goal	3% reduction from the previous medium term
	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 and 0.5% improvement from the previous medium term
	Actions	Continuing to achieve zero emissions at all worksites; 0.5% improvement of zero emission rate
(4) Emissions of harmful substances to the atmosphere	Goal	5% reduction from the previous medium term
	Actions	Achieving 5% reduction of emissions of harmful air pollutants by the entire company

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	Efforts by top management to raise safety awareness at worksites Work environment-related: Systematic implementation of disaster risk assessment and mitigation measures; Personnel-related: Systematic implementation of awareness-raising efforts at each worksite to prevent disasters
(2) Health promotion	Goal	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
	Actions	Guidance for improvement by healthcare professionals and staff in charge of health based on symptoms diagnosed by medical examination Guidance for improvement of mental health care by healthcare professionals and staff in charge of health

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

(1) Distribution-related complaints	Goal	30% reduction from the previous year, 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 the previous year, complete elimination by the end of the New Medium-Term Business Plan
	Actions	Creating visual representations of product-related complaint management; Conducting company-wide quality risk assessments to reduce Rank A and B[1] risks by 30%
(3) Consumer issues	Goal	Sharing information on issues
	Actions	Identifying products for consumers and confirming safety

1 Rank A risks require immediate action and Rank B risks require action.

6. Chemicals and product safety RC

(1) Compliance with chemical-related laws and regulations	Goal	Zero violations
	Actions	Strengthening the management of chemical substances (poisonous and deleterious substances, new chemical substances, etc.) by adopting a new chemical substance control system; Improving regular training programs on chemical substance control (poisonous and deleterious substances, new chemical substances, etc.)

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

(1) Local gatherings and community involvement	Goal	30% increase from the previous medium term
	Actions	Increasing the number of dialogues with relevant organizations and concerned local people by 30% from the previous medium term
(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 one worksite on average
	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) Utilization of diverse human resources	Goal	Increased ratio of female, disabled and older employees
	Actions	Making effective use of diverse human resources
(2) Rewarding workplace that employees can be proud of	Goal	Understanding and improving levels of employee satisfaction with their workplace
	Actions	Developing globally competent employees in preparation for overseas business expansion; training the next generation of leaders; educating employees to increase their motivation and let them take pride in their work

2013 Policies and Evaluation Results

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

Activity items	Policies	Major goals for FY 2013	Evaluation results	
			Nippon Soda	Nisso Group
1. Management system	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.	(1) Compliance with legal and other requirements	(1) × 4 cases of violations, etc. (i) 5/21 Violation of the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. at Chiba Research Center (ii) 6/19 Violation of the wastewater agreement at Chiba Plant (iii) 8/11 Fire accident at Topsin manufacturing facility of Takaoka Plant (iv) 12/5 Violation of the wastewater agreement at Nihongi Plant	(1) × 49 incidents of violations, etc. (i) 7/12 Violation of the Waste Management and Public Cleansing Act at NMC's Chiba Plant (ii) 8/19 Violation of the Waste Management and Public Cleansing Act at NMC's Aizu Plant (iii) NMC's Aizu Plant (40 cases of CO abnormality at the industrial waste incinerator, 4 cases of abnormal discharge of wastewater (heavy rain, etc.) (iv) 1/9 Release of sulfuric acid white smoke at NMC's Chiba Plant (v) 3/16 Small fire at NFC's Onahama Plant (vi) 3/26 Fire caused by toluene at NFC's Koriyama Plant NMC: Nisso Metallochemical Co., Ltd. NFC: Nisso Fine Co., Ltd.
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) No environmental abnormalities (no legal violations) (2) 1% reduction of energy use per unit of production from the previous year (≤ 0.3485 kL/t in crude oil equivalent) (3) 1% reduction of energy use per unit of transport from the previous year (FY 2012) (≤ 0.0255 kL/million yen) (4) 3% reduction of the amount of final disposal as landfill from the previous medium term (≤ 400) (5) Continuation of zero emissions and 0.5% reduction from the previous medium term (≤ 3.7%: 0.17% for a single year) (6) 2% reduction of emissions of harmful substances to the atmosphere from the previous year (≤ 11.542)	(1) × 2 cases (Violation of the wastewater agreement at Chiba Plant/ Violation of the wastewater agreement at Nihongi Plant) (2) ◎ 0.3448 kL/t (2.0% reduction from the previous medium term) (3) ◎ 0.0238 kL/million yen (7.4% reduction from the previous year) (4) ◎ 274 t (32.2% reduction from the previous medium term) (5) ◎ 3.7% (0.16% reduction from the previous medium term) (6) × 11.918 t (2.2% increase from the previous medium term)	(1) × 46 cases • NMC's Aizu Plant: 1 violation of the Waste Management and Public Cleansing Act, 40 cases of CO abnormality at the industrial waste incinerator, 4 cases of abnormal discharge of wastewater (heavy rain, etc.) • Violation of the Waste Management and Public Cleansing Act at NMC's Chiba Plant (2) ◎ 0.178 kL/t (previous medium term: 0.215 kL/t) (17.2% reduction from the previous medium term)
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)	(1) × 1 fire accident at Topsin manufacturing facility of Takaoka Plant (2) ○ Implementation of the 3rd version of the BCP Establishment of the Head Office Disaster Response Headquarters and implementation of drills	(1) × Release of sulfuric acid white smoke at NMC's Chiba Plant Small fire at NFC's Onahama Plant Fire caused by toluene at NFC's Koriyama Plant (2) ○ BCP is being developed at each office. Adoption of CSR policies by 8 companies in April 2014
4. Occupational safety & health	We will create an accident-free working environment in order to provide a healthy and happy working experience.	(1) Achievement of zero accidents (absence from work/no absence) (2) 5% reduction in the total number of absentee days and the incidence of personal injury and illness from the previous medium term (excluding mental-health-related absences) (≤ 1.468 total absentee days, ≤ 27 incidents of personal injury or illness)	(1) × Employees: 1 case involving absence from work, 2 cases involving no absence Affiliate company employees: 3 cases involving absence from work, 2 cases involving no absence (2) × Reduction of 1,403 days/9.2% in the total number of days of absence (excluding mental-health-related absence) from the previous medium term; increase of 33 cases/17.9% in the number of incidents	(1) × Employees: 0 cases involving absence from work, 9 cases involving no absence Affiliate company employees: 2 cases involving absence from work, 4 cases involving no absence (8 Group companies) (2) × Number of incidents of personal injury or illness 8 cases in FY 2012 → 14 cases in FY 2013 Total number of days of absence (including mental-health-related absence) 423 days in FY 2012 → 907 days in FY 2013 (3 Group companies)
5. Distribution safety/Quality assurance	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) 30% reduction in distribution-related complaints from the previous year (≤ 3 complaints) (2) 30% reduction in product-related complaints from the previous year (≤ 19 complaints) (3) Consumer issues, sharing information on issues	(1) △ 4 cases (2) ◎ 16 cases (3) ◎ Commercialization of nursing care products for general consumers and study of their safety	(1) × 11 cases in total (target: ≤ 8 cases) (2) × 23 cases in total (target: ≤ 17 cases)
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) 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) × One violation: Failure to apply for registration of a new chemical substance in a small quantity according to the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (Chiba Research Center) Coating agent (i) ○ Scheduled to start implementation in October 2014. (ii) ○ Head Office: Training sessions for new/transferred employees held twice; training sessions on MSDS/label preparation and hazardous materials transportation held 3 times; training sessions on Korean regulations held twice; training sessions at plants and research centers held 15 times	(1) ○ Achieved
7. Social dialogue/ 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) 30% increase in local gatherings and other meetings from the previous medium term (≥ 21 times/year) (2) Creation of more opportunities for stakeholder engagement (once/year/office (≥ 6 times))	(1) ◎ Achieved. 40 local gatherings, 92 site tours (2) ◎ Achieved • RC verification by JCIA Takaoka Plant (process safety) 12/2 Odawara Research Center (occupational safety) 1/21 Mizushima Plant (environmental protection) 2/4 • Verification of the CSR report by JCIA Head Office 6/12, 18 Nihongi Plant 6/13 • Opinions on the CSR report by Development Bank of Japan (DBJ) • Diagnosis of disaster prevention capability by Sompo Japan Insurance Inc. (Sompo J): 5 times • Diagnosis of occupational accidents by Sompo J: Once	(1) ◎ Total of 33 times in 2013 (13.7 times/year for the previous medium term), consisting of 13 local gatherings, 3 study tours, 15 local cleanup events, and 2 others. (2) ◎ RC auditing, etc. by Nisso • Aizu Plant of Nisso Metallochemical Co., Ltd.: 10/4 • Nisso Fine Co., Ltd. Isohara and Onahama Plants: 9/25 and 26 • Takasaki Plant of Shinfuji Kaseiyaku Co., Ltd.: 8/8 • Renewal and surveillance audits of QMS and EMS by JCQA
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) Workforce diversity (i) Increased ratio of female, disabled, older and foreign national employees (a) Identification of issues associated with the increased employment ratio (b) Planning, development and implementation of measures for the above effort (2) Rewarding workplace that employees can be proud of (i) Understanding and improvement of employees' satisfaction levels with their workplace (a) Planning of an employee satisfaction (ES) survey (b) Implementation (c) Analysis of survey results, identification of issues that need to be addressed by the entire company and by each office and planning of measures to address identified issues by the end of the first half (d) Implementation of measures by the end of the fiscal year	(1) (i) ○ (a), (b) Implementation of measures in response to the revision of the Law concerning Stabilization of Employment of Older Persons (revision of the relevant regulations) • Promotion of employment of older people • Employment of persons with disabilities (2 at Head Office, 1 each at Nihongi and Takaoka) (2) (i) ◎ (a), (b) Completed. ○ (c), (d) Identification of issues at each office	To be implemented from FY 2014.

For measures taken to address violations of laws and regulations, please see page 66.
For measures taken in response to fire accidents, please see pages 33 and 34.

Note) JCIA: Japan Chemical Industry Association

Overseas CSR Topics —At Overseas Group Companies—

The following is a report of CSR activities undertaken by overseas Group companies by Masahito Ikeda, Director of the Environment & Quality Management Department under the Production & Technology Division and Deputy General Manager of the Corporate Social Responsibility Department. Dr. Ikeda visited the overseas sites for research purposes.

January 9, 2014

Methionine plant belonging to NOVUS International, Inc., USA

Administration building outside the plant area

The methionine plant belonging to NOVUS International, Inc., a Nisso Group company, is situated in one corner of the 2,500-acre Chocolate Bayou site belonging to Ascend. The Chocolate Bayou site is located 72 km southwest of Houston in the United States. As is usual in the United States, the site follows strict security protocols, meaning I was not allowed to just walk in. First, I had to watch a video on safety and security and then pass a written test in order to receive a yellow card saying “Ascend Performance Materials, LLC Orientation Training Record,” which is required for entry. Even after passing through the entrance gate, however, I was not permitted to walk to the methionine plant unaccompanied. Instead, a plant staff member came by car to pick me up and take me there. As I said, the security was extremely tight.

The plant’s manager, Mr. Sal Romito, and a staff member, Mr. Stephen Duering explained their on-site CSR efforts, particularly with regard to environmental protection, occupational safety and health, process safety and disaster prevention, distribution safety, chemicals and product safety, and communication, which are the responsible care codes. After their explanation, we spent some time exchanging views. We also shared our opinions based on their responses to the RC checklist of 632 items, which I had sent them before my visit. Upon my return to Japan, I submitted a detailed report on the visit to those concerned at Novus and Nippon Soda.

Comments on the visit

❶They fully implemented the 5Ss at the plant and office. I was deeply impressed by the cleanliness and tidiness. There was not a single weed at the plant and wastewater and air quality are carefully managed. I think the plant was well maintained.

❷The manners displayed by staff members in greeting strangers were agreeable and their communication with strangers was excellent.

❸The data they presented showed that their performance in terms of preventing occupational accidents has improved every year. According to their explanation, they learned from the bitter experience of a past disaster. I believe they are ensuring transparency and accountability.

Plant Manager Sal Romito (third from left)
Masahito Ikeda (third from right)

January 13, 2014

Plant belonging to Iharabras’s Head Office in Sorocaba, Brazil

A verdant environment

Located in the Sao Paulo suburb of Sorocaba in Brazil, the plant operated by the Iharabras Head Office includes a facility where Topsin (agricultural chemical/fungicide) is produced using technology provided by Nippon Soda. The plant’s manager, Mr. Narita, gave me a tour of the manufacturing plant, a new extension currently underway, a product warehouse, the Topsin plant, wastewater and waste gas treatment facilities, and other facilities. After the tour, the Accounting Department manager, Mr. Urdan, gave me a presentation on the history and development of Iharabras. Plant Manager Narita and RC Manager Hiramoto then explained their CSR efforts at Iharabras, particularly with regard to environmental protection, occupational safety and health, process safety and disaster prevention, distribution safety, chemicals and product safety, and communication, which are the responsible care codes. After their explanation, we spent some time exchanging views. We also shared our opinions based on their responses to the RC checklist of 632 items, which I had sent them before my visit. Upon my return to Japan, I submitted a detailed report on the visit to those concerned at Iharabras and Nippon Soda. After the meeting, the manager of the Technology Department, Mr. Havryluk, showed me their vast cultivated field.

Comments on the visit

❶The 5Ss were fully implemented at the plant and office and both were very well organized and clean. In particular, outdoor plants and flowers were well cared for. I was very impressed by their beauty. Wastewater and air quality were strictly controlled. The plant appeared to be maintained in a good condition.

❷Factory security is stronger than in Japan. Guards wear a bulletproof vest and carry a gun on their waist. They said that rifles are always available at the security office.

❸They give their CSR (RC) activities the same priority as their primary job tasks and effectively use these activities as a tool for business management. They consistently and comprehensively monitor both their business and RC activities. They incorporate past lessons, current issues and future visions into their strategies. Moreover, I was strongly impressed by the fact that they are ready to provide detailed explanations about their strategies to stakeholders. I believe they fully understand their responsibility to ensure transparency and accountability on a daily basis.

❹Leaving the company after the final meeting, I found the Iharabras company policy at the entrance hall: “We serve agriculture, which is our reason for existing, by developing solutions to agricultural issues.” This struck me as forming the root of social responsibility and the social contribution aspect of CSR. At that moment, I became convinced that there could be no greater pleasure than contributing to society through my work as a corporate employee.

President Borges (center) and participants

January 16 and 17, 2014

Plant belonging to Head Office of Alkaline SAS, France

The plant operated by the Head Office of Alkaline SAS is located close to Albertville in France and produces metallic sodium. The location and surrounding scenery reminded me of Nippon Soda’s Nihongi Plant, which is situated in a rural area close to Mount Myoko in Joetsu City, Niigata. The beautiful scenery was a welcome sight. Along with 10 other staff members, the manager of the Production and Technology Department, Mr. Le Mouellic, gave me a tour of the plant. I was also given an opportunity to interview President Gastinne, during which time we exchanged views on CSR activities. Managers from different departments explained their CSR efforts, particularly with regard to environmental protection, occupational safety and health, process safety and disaster prevention, distribution safety, chemicals and product safety, and communication, which are the responsible care codes. We also exchanged our opinions. We also discussed quality assurance over the course of a heated discussion that lasted until 7:00 in the evening. President Gastinne stayed until the end of the discussion, listening attentively to our opinions. With regard to their responses to the RC checklist containing 632 items, which I had sent them before my visit, we discussed these via videoconference after my return to Japan, at which time I also submitted a detailed report on the visit to those concerned at Alkaline SAS and Nippon Soda.

Comments on the visit

❶I was impressed to learn that there were a number of staff members ready to engage in earnest and exhaustive discussions in which individual opinions were respected.

❷Along with many others in different countries around the world, they are addressing issues regarding the environment, safety and quality despite numerous constraints.

❸Since my visit there, we have continued to talk by email and telephone conference about how quality assurance and safety should be managed.

Hearing from staff of the QSE Section and Technological Process Section

An office building that looks like a mountain cottage surrounded by a lush natural environment

With QSE Section Manager Stéphanie Benoit, in yellow jacket in the center

Organizational Governance and Management System

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

Basic concept of corporate governance and the current system

We recognize that well-established corporate governance practices are important in order to implement basic business principles that ensure sound and transparent business management in compliance with laws and regulations as well as in order to address sudden changes in the management environment promptly and appropriately.

(1) Outline of the Corporate Governance System

Nippon Soda has a Board of Auditors. Our corporate governance system is comprised of our Board of Directors consisting of six directors and one outside director plus our Board of Auditors, which consists of four auditors including three outside auditors.

Decisions on business management and the supervision of business execution are discussed intensively at the Board of Directors Meeting, generally held once a month, with the aim of promoting flexible and efficient management. To ensure a prompt response to any change in conditions and clarify management responsibilities the tenure of directors is one year.

We introduced the position of executive officer in June 2013 to improve decision-making on and supervision of business management and to enhance business execution performance. In adopting the new system, we revised our bylaws to decrease the maximum number of directors from 15 to 10. Currently there are seven directors, one of whom is an outside director.

The number of executive officers is 17, including six who concurrently hold the position of director. A Management Council meeting attended by those concurrently holding these two positions and by auditors is generally held once a week to discuss important issues involving business execution that need to be addressed quickly. In addition, an executive officer meeting attended by all executive officers is held once a month to share information on the current state of business execution performance and other issues.

(2) Reasons for adopting the system

As set out in our management philosophy, Nippon Soda seeks to contribute to social development through “chemistry,” to meet the expectations of stakeholders, including shareholders, customers, business partners, employees and affiliated companies, and to promote environmentally conscious business practices and activities. We believe that the executive officer system consisting of a management team who are highly familiar with the firm’s business activities and a total of four independent outside directors and auditors is the most suitable system for achieving these goals.

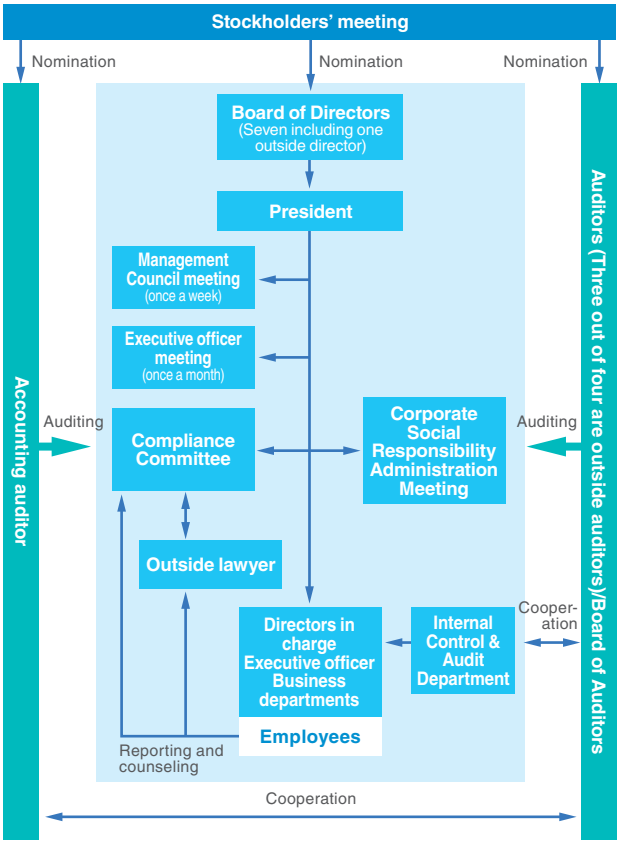
(3) Development of the CSR promotion system

Engaging in CSR (corporate social responsibility) activities allows us to continue our business activities while building the trust and confidence of the general public. We have established the Corporate Social Responsibility Administration Meeting chaired by the President in order to promote business activities that take into account environmental protection, occupational safety, product safety and human rights, as well as to implement risk management according to corporate rules, such as environmental management rules and security management rules, in order to prevent accidents.

Should a serious accident occur, our accident response headquarters is established according to corporate rules, such as our security management rules, to enable a cross-sectional and systematic response.

In the event of a natural disaster such as a large earthquake or some other crisis with potentially disastrous consequences, we will respond appropriately in accordance with our business continuity plan (BCP).

Corporate governance system and Corporate Social Responsibility Administration Meeting



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

❶Policy:
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 16.)

❷Risk 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.

❸Legal 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.

❹Target:
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.

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

Do

❶System development:
The CSR/RC promotion system as shown on page 16 is in operation. Working Group meetings are held monthly and Promotion Subcommittee meetings and Administration meetings are held twice a year.

❷Education/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.

❸Communication 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.

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

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

❻Emergency 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

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

Act

❶Inspection/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.

❷Corrective 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.

❸Information 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.

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

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.

Human Rights/Labor Practices

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

Topics

Comments from female employees

Yuko Baba
Department of Biological Research
Odawara Research Center
Research & Development Division

I belong to the Group of Biocide under the Department of Biological Research at Odawara Research Center, which is engaged in the research and development of preservatives, algae control agents, fungicides, insecticides, termite control agents and other agents. The Group of Biocide conducts research aimed at developing products that meet diverse customer needs. I am mainly engaged in conducting biological assessments requested by users. Because the results of my assessments affect the decision on whether the chemical can be commercialized, my job is stressful but rewarding.

After taking child care leave, I resumed my original position and have been able to balance my work and family responsibilities by taking advantage of the shorter working hours system.

Mamika Tsuji
Environment Protection Section
1st Environmental Chemicals Department

I belong to the 1st Environmental Chemicals Department and am in charge of products mainly related to the water section (disinfectants for swimming pools and septic tank discharge as well as urolith inhibitors and urolith removing agents for toilets, etc.). At first I felt a little nervous because I was one of only a handful of female salespeople. But I have found that my opinions and ideas are valued precisely because I am a woman. I am now very comfortable in my job and would like to make more efforts to help launch new products based on unique female perspectives.

Mai Matsushita
General Affairs & Personnel Department

The investor relations (IR) section, to which I belong, is responsible for providing shareholders with information to help them gain a better understanding of our company. Every day I am reminded of how difficult it is to understand and communicate large amounts of information correctly. At the same time, by serving as a bridge between Nippon Soda and the broader society, I enjoy getting to know lots of different people both in and outside the company.

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 2011, 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.

Achievement 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 (except those in research and other fields that require high-level skills and expertise) have no prerequisite academic qualifications and we accept mid-career hirees 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.

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.

Total annual working hours per employee (2012)

Normal working hours (hours)	Early start and overtime hours (hours)	Holiday overtime hours (hours)
1,830.8	120.4	7.3

Paid annual leave days taken (days)	Various kinds of leave days taken (days)	Total annual working hours per person (hours)
14.6	2.1	1,739.8

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.

We also encourage employees to take child/family care leave.

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

	Those who took child care leave (person) The numbers in the brackets are for male employees	Those who took family care leave (person)
2009	6 (0)	5
2010	6 (0)	2
2011	2 (0)	1
2012	7 (0)	0
2013	7 (1)	0

Human Rights/Labor Practices

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.

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.

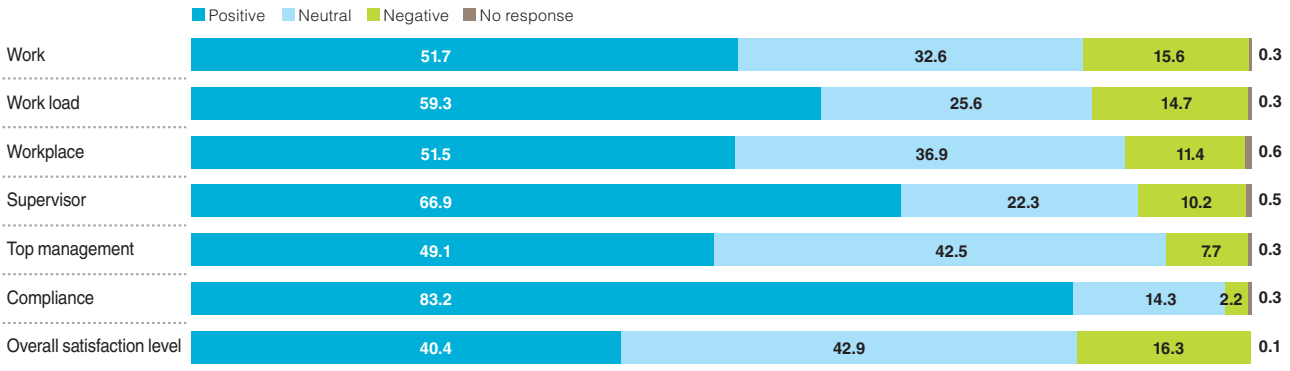
Implementation of an employee satisfaction (ES) survey

We introduced an employee satisfaction (ES) survey in fiscal 2013 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.

The first survey was conducted in fiscal 2013. We are planning to continue the survey in the future in order to improve our understanding of actual situations so that we can continue to develop and implement measures to address issues.

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%

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 number of labor union members (people)	Average age (years)	Average length of service (years)
2009	915	41.6	21.5
2010	868	42.2	21.6
2011	848	42.0	21.3
2012	856	41.6	20.7
2013	850	40.9	19.9

Measures to maintain health

While health conditions largely depend on individual lifestyle, Nippon Soda is actively involved in maintaining and promoting the health of its employees.

One example is our “*Kenko-ryoku Up Dai-sakusen*” (Health Promotion Campaign). This is an annual company-wide campaign where 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.

An example of efforts to improve the workplace environment

Tables with casters are easier to assemble and move.
Older chairs have been replaced with models that are more comfortable to sit in, lighter in weight and easier to handle.

Voice

Takatoshi Shinbo
Personnel Group
General Affairs & Personnel Department

To create a work environment where every employee can work happily and productively

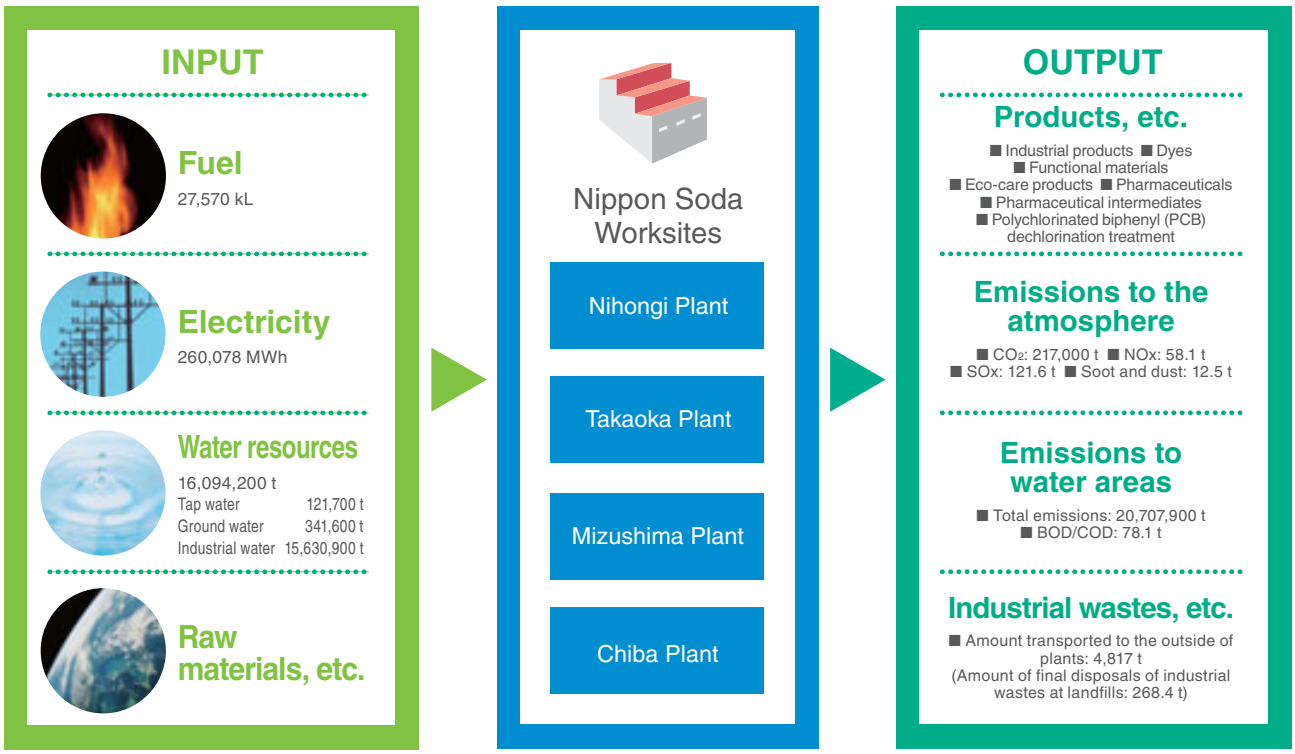
We have introduced new systems and implemented new efforts, including the overall reform of the personnel system and the effort to understand workplace conditions by conducting an employee satisfaction survey, in order to let a burst of fresh air into the company. Through these efforts, we have been promoting the creation of a workplace environment where employees are ready to take on challenging tasks and are positively engaged in their duties. We have also redesigned the uniform worn by members of manufacturing departments and others, which had not been changed for more than 20 years.

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.

Major environmental impacts

The environment impacts of Nippon Soda's four major plants in fiscal 2013 are shown in the figure below.



Acquisition of high "environmental ratings" from DBJ

DBJ 環境格付 2009

In December 2009, 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."

DBJ 環境格付 2011

In April 2011, 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."

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.

Figure 1 shows the change in Nippon Soda's energy consumption and carbon dioxide 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 39.4% and carbon dioxide emissions were cut by 30.4% from 1990 levels.

In comparison with the previous year, energy consumption in crude oil equivalent increased by 0.3% and carbon dioxide emissions also increased by 2.3%. The major cause for the increase in energy consumption was increased production while the main factor behind the increase in carbon dioxide emissions was increased production and an increase in the carbon dioxide emissions coefficient of electricity.

▶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.

We were certified last year as an "Eco Rail Mark" company for our modal shift efforts.

エコレールマーク

▶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 2 shows changes in the per-unit energy use.

Waste reduction

Nippon Soda has been making efforts to reduce industrial waste.

▶Reduction of the amount of final disposal as landfill

The Nippon Soda Group reduces the amount of waste going to landfill by reducing the disposal of industrial waste as well as increasing recycling. Figure 3 shows changes in the amount of transported industrial waste and the amount of final disposal going to landfill. In fiscal 2013, in comparison with the base year 1995 (1996 for the amount of final disposal as landfill), the amount of transported waste decreased by 21.8% and the amount going to landfill decreased by 92.3%.

▶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.

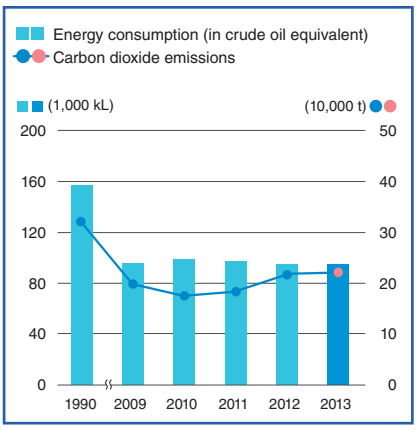
The change in the zero emissions ratio, or the ratio of the amount of final disposal as landfill to the amount of transported waste, is shown in Figure 3.

Nippon Soda has achieved the zero emissions goal.

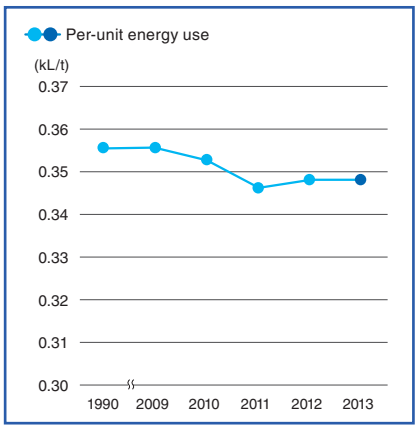
▶PCB waste

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 Wastes. 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.

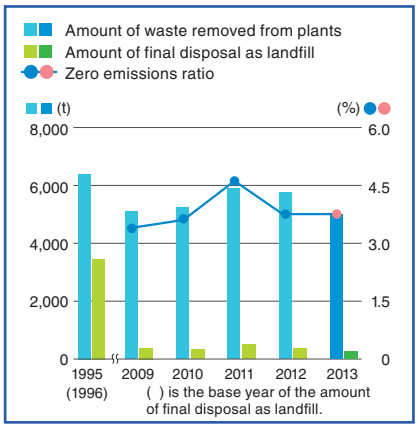
[Figure 1] Changes in energy consumption and carbon dioxide emissions



[Figure 2] The energy use per unit of production



[Figure 3] 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: 1996

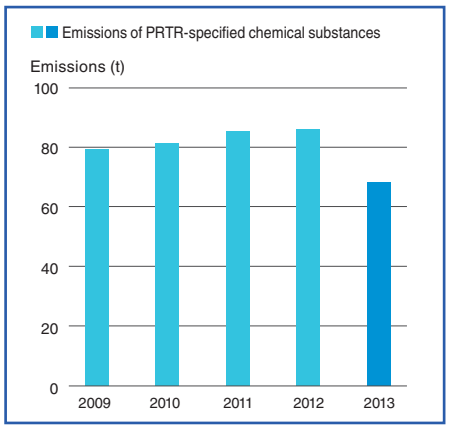
Environmental Protection

Atmosphere and water area protection

▶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 4.

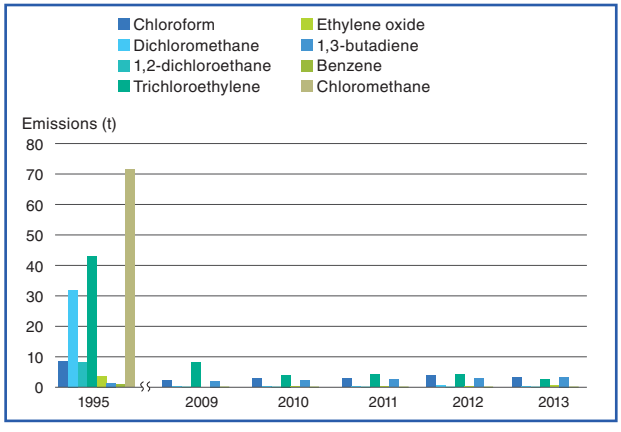
[Figure 4] Changes in the emissions of Class 1 chemical substances specified by the PRTR Law



▶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 5.

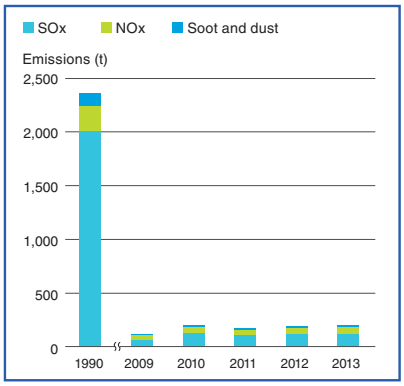
[Figure 5] Changes in the emissions of voluntarily controlled chemical substances to the atmosphere



Nippon Soda voluntarily controls the following eight substances: chloroform, dichloromethane, 1,2-dichloroethane, trichloroethylene, ethylene ox ide, 1,3-butadiene, benzene and chloromethane.

Chemical air pollutants are trace elements in the air that adversely affect humans, animals, plants and the living environment. Figure 6 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).

[Figure 6] Changes in the emissions of substances controlled by the Air Pollution Control Act



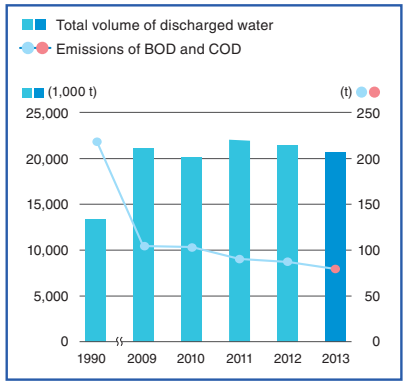
In fiscal 2013, in comparison with the base year 1990, emissions of sulfur oxide, nitrogen oxide, and soot and dust decreased by 93.9%, 75.5% and 89.5%, respectively.

▶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 7 shows 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.

[Figure 7] Changes in the total volume of discharged water and emissions of BOD and COD



Environmental accounting

Environmental -protection- related investments, costs and effects of Nippon Soda in fiscal 2013 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, 2013 to March 31, 2014
Reference guideline: Ministry of the Environment's Environmental Accounting Guidelines (2005)

Environmental protection costs

Environmental protection costs (Classification according to business activities)

Classification		Major measures taken	Invested amount (unit: million yen)			Costs (unit: million yen)		
			2011	2012	2013	2011	2012	2013
(1) Business area costs			143	446	171	2,469	2,435	2,568
Details	1-1 Pollution prevention costs	Water pollution prevention, air pollution prevention	140	408	147	1,833	1,816	1,916
	1-2 Global environmental protection costs	Global warming prevention	3	33	14	80	70	79
	1-3 Resource recycling costs	Effective use, reduction of waste	0	5	10	556	549	573
(2) Upstream and downstream costs		Use of low-sulfur fuel oil C, precious metal catalyst recovery	0	0	0	98	81	80
(3) Environmental activity costs		Environmental measures, environmental analysis, waste treatment	0	0	0	506	502	465
(4) R&D costs		Research to reduce environmental impact	0	0	0	367	315	314
(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	92	79	245
Total			143	446	171	3,533	3,413	3,673

Economic effects produced by environmental protection

The amounts are recorded amounts. Unit: million yen

Economic effects produced by environmental protection (actual effects)

Details of effects		Amount (unit: million yen)		
		2011	2012	2013
Revenue	(1) Revenues through recycling	1	1	0
Cost saving	(2) Cost saving through energy saving	198	173	165
	(3) Cost saving through resource saving	127	126	10
	(4) Saving of waste disposal costs	1	2	1
Total		327	302	176

Voice

Katsumi Kazumi
Environmental Protection Team
RC Administration Department
Nihongi Plant

Development of a system that prevents environmental abnormalities from occurring

To achieve the Action Goals of the Nippon Soda Group, each worksite develops its own activity plan for each item to reduce environmental impacts. We are also developing a system that prevents environmental abnormalities* from occurring. Efforts are also focused on reviewing and verifying the implementation of past measures to prevent the same abnormalities from reoccurring.

* An environmental abnormality is a deviation from a legal or other requirement.

Process Safety & Disaster Prevention BCP

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

Process safety and disaster prevention

Risk assessment and reduction through process safety and disaster prevention

The Nippon Soda Group assesses risks for existing facilities and machinery, existing processes, new facility construction and extensions, and new processes. If any unacceptable risks are identified, we take actions to reduce them.

Safety audit to confirm the safety of plants

The Nippon Soda Group requires that safety reviews and audits be conducted by responsible personnel and specialists in order to ensure the safety of new facility construction and renovation projects.

Covering various aspects such as safety, the environment and quality, these checks consist of a safety audit of the Head Office, a safety review of plants, and a safety review of departments. Each review takes the scale and process of the relevant construction work into account.

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 fiscal 2013 report on the diagnosis is presented on page 69.

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.

▶Disaster prevention system involving local communities

Nippon Soda's manufacturing plants implement regular disaster drills in cooperation with other nearby plants and local governments so as to be prepared for an emergency situation. In order to improve their effectiveness, these drills are conducted in accordance with local environmental and other characteristics unique to each region.

▶Standards of behavior to respond to emergencies

Our drills are conducted based on standards of behavior that we have developed in order to be prepared for various tasks in the event of a disaster or accident. Such tasks include communications, taking action and exercising control in an appropriate and prompt manner.

Diagnosis at Mizushima Plant
(August 29, 2013)

Voice

Yoichi Sakamoto
Industrial Chemicals Section
Manufacturing Department
Takaoka Plant

Earthquake-resistance reinforcement construction is ongoing at electrolysis facilities to make the operation and supply system more disaster-resistant

At Takaoka Plant, construction to reinforce the earthquake-resistance of electrolysis facilities has been ongoing since fiscal 2012. This is the final year of the three-year plan. The reinforcement of the earthquake-resistance of the electrolysis plant and installation of an electrolyzer frame has been so far completed and the rest of the construction has been progressing as scheduled. Caustic soda and chlorine, which are generated during electrolytic operation, are used for a wide range of purposes and are essential to modern life. When this reinforcement work is finished, it will be possible to minimize damage even in the event of an upper-6-level earthquake and to resume operation within a short period of time.

Business Continuity Plan (BCP)

Basic policy

In the event of a natural disaster such as a large-scale earthquake or other crises that can result in serious damage, the social responsibility of Nippon Soda is to ensure protection for local residents, full-time and temporary employees and affiliate company employees from possible harm posed by the company's business sites located in the affected area, where toxins, deleterious substances, hazardous materials, high pressure gas and a large amount of energy are present. 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

❶ 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.
❷ The consciousness of serving the public and community is shared among all personnel throughout the company.
❸ Efforts are focused on protecting the safety of the affected Head Office, plants, research centers, branch offices and sales offices.
❹ Measures should be taken to establish a system that allows Nippon Soda's employees, affiliate company employees and temporary employees who are engaged in ensuring safety and security to act flexibly and at their discretion according to the circumstances.

Continuation 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.

Efforts for business continuity

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

① Policy

② Planning
- 2.1 Identification of Disasters and Crises to be Included in the Plan
- 2.2 Impact Assessment
  - 2.2.1 Estimation of Suspension Period and Response Capacity
  - 2.2.2 Identification of Critical Business Operations
  - 2.2.3 Determination of Time Required to Achieve Target Recovery
- 2.3 Estimation of Damage to Critical Business Operations
- 2.4 Identification of Critical Elements
- 2.5 Development of Business Continuity Plan
  - 2.5.1 Clarification of Chain of Command
  - 2.5.2 Securement of Functions of the Head Office and Other Key Sites
  - 2.5.3 External Communication and Information Sharing
  - 2.5.4 Information System Backup
  - 2.5.5 Supply of Products and Services
- 2.6 Additional Requirements Concurrent with Business Continuity
  - 2.6.1 Protection of Life and Confirmation of Safety of Individuals
  - 2.6.2 Mitigation of Damage to Offices, Business Sites and Equipment
  - 2.6.3 Secondary Disaster Prevention
  - 2.6.4 Coordination with and Contribution to Local Communities
  - 2.6.5 Mutual Cooperation and Assistance

③ Implementation
- 3.1 Implementation
- 3.2 Documentation
  - 3.2.1 Preparation of Plans and Manuals
  - 3.2.2 Preparation of Checklist
- 3.3 Financing
- 3.4 Confirmation of the Practicality of Plans
- 3.5 Importance of Management Decision-Making during Disasters

④ Provision of Education and Training

⑤ Assessment and Corrective Actions

⑥ Review by the Management

Process Safety & Disaster Prevention BCP

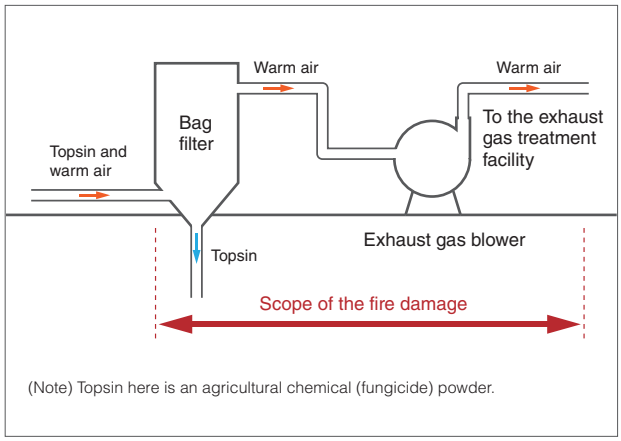
In fiscal 2013, three fires occurred.
The following provides the background to the incidents, their causes and the measures taken:

I Takaoka Plant, Nippon Soda Co., Ltd. Fire at Topsin manufacturing facility

At 0:15 on August 11, 2013, a fire broke out at the drying process site of the Topsin manufacturing facility belonging to Takaoka Plant. The fire was extinguished at 3:37.

1. Damage

(1) No human damage
(2) Facility damage: The bag filter, about 30 meters of the pipe from the bag filter to the exhaust gas treatment facility, and the exhaust gas blower of the drying process facility of the Topsin manufacturing plant were burned.



Overview of site of fire

2. Causes

(1) Sulfur was deposited at the exhaust gas exit of the bag filter and along a roughly 30-meter stretch of the pipe.
(2) The exhaust gas pipe was made of steel, which had rusted.
(3) The exhaust gas blower located midway along the piping was also made of steel. Sulfur and rust were detected on the moving blades of the blower and in the gap of the casing on the fixed side.
(4) Sulfur and rust in the gap between the moving blades of the blower and the casing rubbed against each other and caught fire (same mechanism as a match being struck).
(5) The fire broke out from the blower and spread via sulfur and rust, which, attached to both the absorbing and emitting sides of the blower pipe, acted like a fuse, and reached the bag filter. The fire then spread to the Topsin power inside the bag filter, which caused a dust explosion, damaging the bag filter.

3. Measures to prevent recurrence

(1) Preventive measures for facilities
  (i) Prevention of sulfur deposition: The piping shall be heated at a safe temperature to prevent sulfur deposits from forming.
  (ii) Iron rust prevention: The material used for the drying facility was changed to stainless steel, which does not rust easily.
  (iii) Installation of inspection doors: Inspection doors and other devices to ensure the inspection and maintenance of the drying facility were installed.
  (iv) Abnormality detection: To ensure early detection of fire, an additional thermometer was installed on the exhaust gas piping of the drying facility so that any change in temperature can be monitored.
  (v) Installation of fire extinguishing equipment: A fire fighting water hose dedicated exclusively to fighting fires in the drying facility was additionally installed.
(2) Intangible measures
  (i) Sources of danger were re-identified and the degree of risk was re-assessed.
  (ii) Re-training on the physical properties of combustible substances within the system and how to handle these substances was provided.
  (iii) A survey of sites across all plant facilities where deposits of combustible substances have formed was conducted and safety measures were implemented.

4. Measures to prevent recurrence taken by the Nisso Group

(1) Surveys to determine the presence or absence of deposits/accumulations of combustible/hazardous substances in processes where such deposits/accumulations should not occur were conducted by October 15, 2013 in Japan and by December 31, 2013 overseas.
(2) Fire preventive measures for processes where it is possible for deposits/accumulations of combustible/hazardous substances to occur were developed by December 31, 2013 in Japan and by March 15, 2014 overseas.
(3) In Japan, worksites, including those of manufacturing group companies, completed the survey and implemented the measures by March 31, 2014.
  Outside Japan, the implementation of preventive measures for the drying process at Nisso Namhae Agro Co., Ltd. (NNA) is scheduled to be completed by June 30, 2014. At other overseas offices, it was confirmed by December 31, 2013 that there were no deposits of combustible or other substances.

5. Operation status

(1) An order to stop the operation was issued at 1:28 on August 11, 2013 by Takaoka City Fire Station and lifted on October 29, 2013.
(2) After the order to stop the operation was lifted, restoration of the plant was started and measures to prevent recurrence were implemented. On November 25, 2013, a trial operation was conducted and on December 2, 2013 operation was resumed.

II Nisso Fine Co., Ltd. Small fire caused by industrial waste at Onahama Plant

1. **Date of occurrence**: Smoke was emitted around 8:00 in the morning on March 16, 2014. At around 9:15, the security firm detected a flame.
2. **Extent of the fire**: Four flexible container bags of waste from defective deoxidizer products
3. **Brief description of the accident**: Defective products from the deoxidizer plant were placed in an iron mesh basket and left outside for about one week until they were deactivated and no longer reactive. They were then placed in flexible container bags as waste. Some of the defective products in the iron mesh basket were insufficiently oxidized. These were mixed into the flexible container bags, causing heat to be generated inside the bags, which resulted in a fire breaking out. There was no human damage because it was Sunday and the plant was closed (there was nobody at the plant). There was also no damage to the facilities.
4. **Measures to prevent recurrence**: It was decided to store defective deoxidizer products in a drum filled with water, which would be picked up by an industrial waste disposal company.
5. **Measures to be taken based on the lessons learned**: Products and raw materials that can accumulate heat and cause a fire will be tested for such potential and, if necessary, appropriate measures will be taken.

One of the preventive measures taken after the fire accident at Takaoka Plant's Topsin manufacturing facility

Exhaust gas pipe and blower before implementing a measure

Exhaust gas pipe and blower to which inspection doors were added after the accident

III Nisso Fine Co., Ltd. 4-*gun* Plant at Koriyama Plant Fire caused during subdivided packaging of toluene

1. **Date of occurrence**: Around 13:48 on March 26, 2014
2. **Description of event**: A tank of toluene caught fire when 40 liters of the chemical were being drained from the tank into a 45-liter stainless steel bucket using a stainless steel flexible hose as part of the process of manufacturing agrochemical substances at the 4-*gun* Plant (General Hazardous Materials Handling Facility).
3. **Cause**: We assume that the fire was started by static electricity generated when the toluene was drained into the stainless steel bucket, which was not grounded.
4. **Measures to prevent recurrence**

(1) The process of subdividing toluene into a bucket for cleaning was eliminated.
(2) A general prohibition against the subdivision of toluene and other flammable solvents was established. For infrequent operations, such as pilot production, where the subdivision of a solvent is required, a device to be used exclusively for such subdivision will be made (taking into account the used container, grounding, flow rate and nitrogen purging). Before such device is used, written standards will be developed and all involved will undergo training to ensure full familiarity with the standards.
(3) It was determined that grounding, nitrogen purging and duct exhaust are required when hazardous materials, such as contained in drums, are handled.
(4) The manufacturing operation standards were reviewed and revised, and training was provided to ensure that all workers are fully familiar with the updated standards.
(5) Preventive rules were reviewed and improvement measures were implemented.

5. **Measures to be taken based on the lessons learned**

(1) A general prohibition against the subdivision of solvents at all manufacturing facilities, including the 4-*gun* Plant, was also established. It was also determined that a line solvent would be used to clean the inside of tanks at a flow rate that does not purge nitrogen and generate static electricity. This decision will also be applied to all plants.
(2) Similar hazardous handling operations will be reviewed at all plants belonging to the company and findings will be shared among them.

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.

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 themselves mainly consist of efforts to reduce occupational accident risks based on OSHMS risk assessments but also include 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, accident risks are reduced to permissible levels.

To prevent worker errors, the following three measures are adopted:

❶ 5Ss
❷ 4 Safety Cycles
❸ Safety-awareness-raising efforts at business sites

The “5Ss” collectively refers to five Japanese words: seiri (organizing), seiton (tidying), seiso (cleaning), seiketsu (cleanliness) and shitsuke (discipline).

The 4 Safety Cycles are

❶ KY[1] before starting operation
❷ Pointing and vocalizing during operation
❸ Mutually directing attention during operation
❹ Identifying “hiyari-hat ” (near miss) accidents after operation

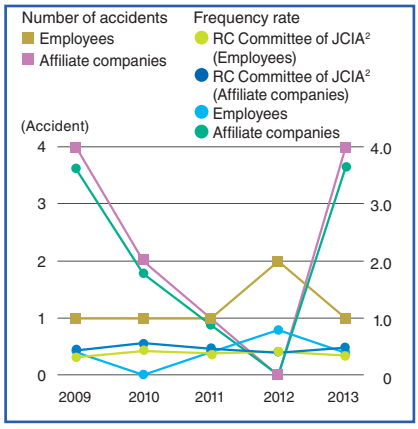
The 5Ss and the 4 Safety Cycles are the two fundamental concepts that form the basis of safety activities for the entire Nippon Soda Group. The top management at each business site takes the initiative in promoting safety awareness among employees so that safety activities are improved through the continuous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

▶Changes in the number of occupational accidents resulting in absence from work and the frequency rate

Figure 1 shows the change in the number and the frequency rate of occupational accidents resulting in an absence from work.

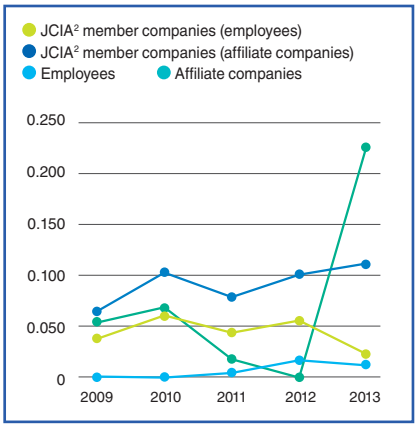
Four occupational accidents resulting in an absence from work were reported by affiliate companies: (1) In January 2013, an employee of an affiliate company of Nihongi Plant slipped on icy road on the way to work and suffered a broken wrist; (2) In

[Figure 1] Changes in the number of occupational accidents resulting in absence from work and the frequency rate



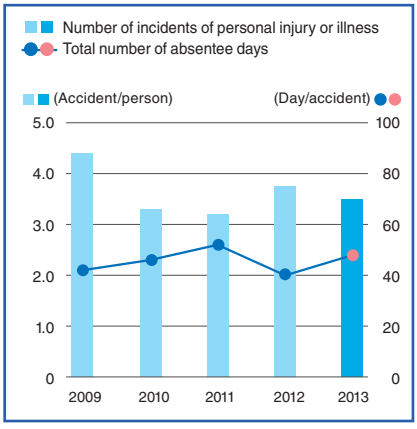
Occupational accident frequency rate:
Casualties/Total working hours (per million hours)

[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)

[Figure 3] Changes in the number of incidents of personal injury or illness (per person) and the total number of absentee days



Note) The data for Figure 1 and Figure 2 were collected from January 1 to December 31 of each year. The data for Figure 3 were collected from April 1 of each year to March 31 of the following year.

April, an employee of an affiliate company of Chiba Plant fell into a treatment pit while stepping over the pit in the process of cleaning it, resulting in a broken ischium; (3) In May, an employee of an affiliate company of Haibara Field Research Center at Odawara Research Center injured a finger by cutting it against mower blades while brushing out grass residue from inside the mower's grass collector; (4) In October, an employee of an affiliate company of Mizushima Plant twisted an ankle and ruptured the right ankle ligament when dismounting from a forklift. These occupational accidents resulting in an absence from work are the reason for the high frequency and high severity rates of affiliate companies in 2013.

▶Changes in the severity rate of occupational accidents

Change in the severity rate of occupational accidents is shown in Figure 2.

The number of consecutive days without accidents resulting in absence from work (As of March 31, 2014)

Worksite	The number of consecutive days without accident resulting in absence from work	The number of consecutive years without accident resulting in absence from work
Head Office	3,960 days	10 years
Nihongi Plant	564 days	1 year
Takaoka Plant	75 days	0 year
Mizushima Plant	7,816 days	21 years
Chiba Plant	3,521 days	9 years
Odawara Research Center	4,910 days	13 years
Chiba Research Center	8,073 days	22 years

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

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 "Kenko-ryoku 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.

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

Our mental healthcare program consists of the following four components:

❶ Self-care
❷ Care by administrators in the workplace
❸ Care by occupational healthcare staff and other specialists at each workplace
❹ Care by external parties

To help employees with their self-care ❶ and provide care by occupational healthcare staff and other specialists at each workplace ❸ a mental health check is conducted once a year. To improve care by administrators in the workplace ❷, 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 ❹.

Lecture on health: Benefits of hot springs and warm-water bathing
(At Takaoka Plant on November 27, 2013)

Yoga lesson
(At Takaoka Plant on September 19, 2013)

Occupational Safety and Health

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

February 6 and 7, 2014

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 following summarizes the survey results:

1. Period: February 6 (Thursday) and 7 (Friday), 2014
2. Surveyed site: Manufacturing Department, Takaoka Plant
3. Issues identified through interviews

The section surveyed on February 6 places an emphasis on "keeping to agreed rules." To help achieve this goal, they have developed their own standards, which include reasons for the adoption and implementation of the standards as well as lots of photos to make it easier for section members to understand. The Shift Chief is responsible for reviewing the standards. To maintain ongoing awareness of the importance of "keeping to agreed rules," the members take turns being in charge of safety for one day under the supervision of the Section Manager. The person in charge for the day is required to identify two safety issues that should be addressed. Another effort is the identification of "hiyari-hat" (near miss) accidents to make section members more sensitive to possible risks. Even though employees are provided with training on the physical properties and dangers of machinery, accidents can occur. Production can sometimes be completed only by certain persons. However, achieving zero accidents requires the involvement of all employees. Without serious efforts by all those involved, zero accidents cannot be achieved. Therefore, working out how to ensure employees are serious about achieving the goal is essential.

At the section surveyed on February 7, the Section Manager places importance on three issues. One is daily communication with employees both of the plant and of affiliate companies in order to foster a more open atmosphere in the section. The Section Manager believes good communication eliminates any discomfort within the section and thereby facilitates its operation. The second issue is the importance of further raising safety consciousness, which became more important after accidents resulting minor injuries (no absences from work) in 2012. The Section Manager considers it possible to operate the section safely and efficiently by "keeping to agreed rules" and warning each other of possible dangers regardless of age or job title. The third issue is the urgent need to ensure a high level of preparedness for the time when experienced specialists leave the section. This is because of the skewed age composition of employees. At present, mid-career employees are responsible for technical work. The Section Manager is planning to take measures to pass on their expertise and skills to younger members.

4. Summary of review

Reporter: Ueno, senior consultant, Sompo Japan Nipponkoa Risk Management Inc.

(1) Pre-work meeting
- (i) Instructions and details of the work were read out but some were not loud enough to be heard by all.
- (ii) There were not enough chairs and some people had to stand throughout the meeting.
- (iii) Some of the employees from an affiliate company listened to the briefing with their back to the reporter, which is inappropriate. Listeners should face the reporter so as to show their willingness to listen.
- (iv) It was a good idea to report cases of hiyari-hat and other accidents that have occurred in the past. However, reporters simply read out written reports, which were hard to understand. Copies should be provided or other measures to make reports easier to understand should be considered.
- (v) The full implementation of "five principles of work instruction" and "eight principles of training" makes meetings more efficient.

(2) Reconstruction of safety infrastructure (increase in motivation for safety activities)
- (i) Current state: Checklist of safety activities, one-day assignment of a staff member in charge of safety (required to identify at least two safety issues a day), identification of at least three hiyari-hat accidents/month/person
- (ii) Improvement needed: As long as employees feel that they are being forced to engage in safety activities, good results cannot be expected. Efforts should be made and measures should be taken to increase their sense of being involved. It is necessary to create a corporate culture where employees are proactively thinking and acting on their own initiative instead of just waiting to be told what to do.

(3) Measures for those in their 50s to prevent occupational accidents
- (i) These workers need to be made aware of their declining physical function.
- (ii) Elimination of occupational accidents by experienced experts: They should be advised to drop the idea that "It's nothing" or "It's not a big deal" and to act as a consistent role model for younger members.

(4) Strengthening of on-site management by managers
- (i) Managers should patrol worksites at random times.
- (ii) Managers should undertake patrols to maintain safety and improve equipment and facilities as much as possible.

(5) Improvement of on-site patrols
- (i) The horizontal handrails should be changed to vertical ones (to prevent people from stepping on the rail to climb up).
- (ii) Details of what needs to be pointed to and vocalized should be described on signboards used for "pointing and vocalizing" during operations.

(6) It is important to provide training until the point where trainees are confident that they can perform their work safely. It is not enough to provide them with information on how to perform their work safely.

5. Others

Section Managers and Heads were working hard to promote efforts to prevent occupational accidents. To achieve safety, all members need to be involved. It only takes one failure to prevent an accident to put an end to the accident-free record. The survey revealed that the issue was how to make all employees serious about preventing occupational accidents.


Carrying out an interview

II Lecture on health at Head Office

July 30, 2013, 15:00-16:00

A lecture on health jointly organized by the Nisso Health Insurance Association and the Environment & Quality Management Department was held on July 30 in Meeting Room 1 at the Head Office.

During the medical examinations held in fiscal 2012, the highest abnormal finding was "lipid abnormality," which was recorded at a rate of 45.3%. Abnormal lipids damage blood vessels and accelerate arteriosclerosis, which can be fatal. There are three options to improve the symptom: 1) improvement of dietary habits, 2) exercise and 3) medication. The July 30 lecture focused on dietary habits.

Dr. Yoshie Hirasawa, a registered dietitian at Tokyo Rosai Hospital's Occupational Preventive Medical Center, was invited to present the lecture. Entitled, "Be More Healthy, Be More Active: A Lesson on Improving Dietary Habits," her presentation was attended by 44 employees. The lecture included quizzes and group drills involving all participants. After the drills, a representative of each group presented the results.

Exercise 1 (Work 1)

A 58-year old male: Slightly high blood sugar level and blood pressure. He wants to decrease his blood sugar level and blood pressure before his medical examination scheduled for the coming month.
What should he have for lunch? The target calorie intake is about 750 kcal. Try to include at least one staple food, one main dish and two side dishes.

Exercise 2 (Work 2)

A 35-year old male: He weighs 80 kg and has a high triglyceride level and high liver function levels. He wants to lose weight and improve his fitness—"But I have to attend work drinks tonight at a restaurant."

The target calorie intake for one meal is about 800 kcal. The amount of alcohol should not exceed two glasses. What about snacks?

The lecture provided participants with information on the caloric content of various foods and alcoholic beverages and how much they need to consume in order to get the right amount of calories, maintain a nutritious balance, and ingest an appropriate amount of salt.

In the next lecture, we hope to hear from Dr. Hirasawa about how to ensure our stomachs feel satisfied.

The lecture at Head Office

Voice

Mitsuo Omori
Management Section
Mizushima Plant

To achieve and maintain zero occupational accidents and promote employee health

We have adopted an occupational safety and health management system (OSHMS) to reduce occupational accident risks. We are also focusing our efforts on achieving and maintaining zero occupational accidents with the 5Ss and the 4 Safety Cycles, which are activities designed to prevent worker error, as our fundamental safety activities. Our activities to promote employee health include health counseling and guidance services provided by an occupational physician, an annual mental health checkup and encouraging self-care.

Distribution Safety, Quality Assurance and Consumer Issues

The Nippon Soda Group takes measures to prevent distribution accidents by minimizing hazards, harm and risks of in-transit accidents associated with the transportation and distribution of our products, as well as to protect the safety and health of users of our products and increase customer satisfaction.

Efforts to ensure transportation safety

▶Yellow Card[1]

Nippon Soda promotes the use of Yellow Cards.

▶Container Yellow Card[2]

Nippon Soda promotes the use of Container Yellow Cards, mainly for hazardous materials, so that in the event of an emergency those on the scene can make an immediate response.

▶Measures to prevent transportation accidents involving hazardous materials

Nippon Soda maintains a "Safety Information List" containing information on the designated transportation route for each product, 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 responding to emergencies, 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.

A drill for recovering products under the scenario of a spill during transportation
(At Mizushima Plant on October 30, 2013)

▶Transportation risk assessment

Nippon Soda identifies risks associated with the transportation of products. If the identified risks are unacceptable, efforts are made to reduce them to permissible levels. Through these efforts, we are constantly reducing distribution-related risks.

▶Request for improvement of customers' facilities

If risks such as potential leakage are identified with regard to facilities where our products are used, Nippon Soda makes a specific request for improvement.

This system has proven successful in the past, where customers and users who made improvements in compliance with our request have averted problems.

▶Audit of distribution companies

Nippon Soda conducts audits regularly to confirm that companies to which it outsources distribution take appropriate measures to ensure safety. If matters needing improvement are identified as a result of an audit, Nippon Soda requests the company to make improvements and checks the result in the next audit.

▶Distribution-related safety education of distribution companies

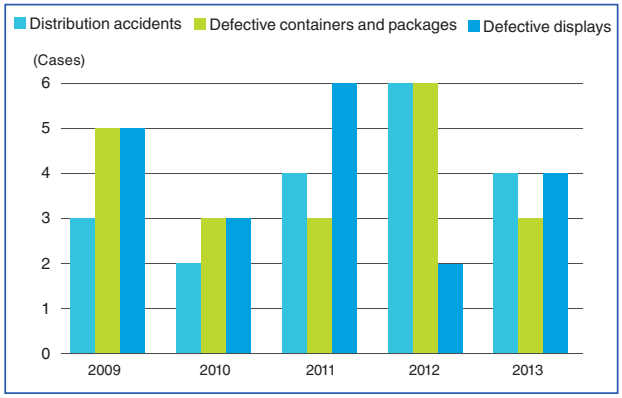
Nippon Soda on a regular basis provides distribution companies with education on the hazards and harm associated with various products along with information on safe handling procedures so that our products can be delivered to customers without any problems.

Distribution, safety and storage inspection
(At Omiya Office, Sanwa Soko Co., Ltd. on November 12, 2013)

▶Change in distribution and other accidents

Figure 1 below shows changes in the number of distribution accidents, defective containers and packages, and defective displays over the last five years.

[Figure 1] Changes in the number of distribution accidents, defective containers and packages, and defective displays



Efforts to address consumer issues

Nippon Soda protects the health and safety of consumers who use its products and provides product information to increase customer satisfaction.

To promote these efforts, we revise MSDSs to meet GHS requirements[3] and develop delivery specifications.

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 emergency index number in addition to other information.
3 Please refer to notes 2 and 3 on page 42.

Efforts to ensure quality assurance

▶Verification of preventive measures against recurrence of logistics problems

Nippon Soda reviews as needed measures taken to prevent the recurrence of past logistics problems so as to ensure that these problems do not fade from memory and to improve the measures in order to meet current needs.

▶Quality management system (QMS)

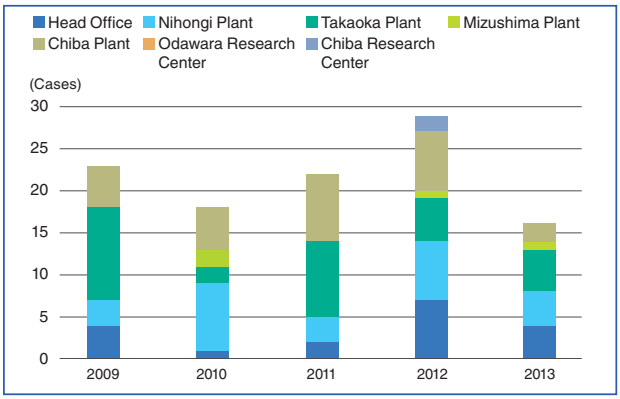
Each of the plants and one research center of Nippon Soda have met ISO 9001 quality standards, obtained certification and established their own quality management systems.

▶Aiming to achieve zero quality complaints

Nippon Soda is making efforts to achieve zero quality complaints. When we do receive a product-related complaint, we follow our established regulations to promptly identify causes, take necessary actions to address the complaints, and take measures to prevent recurrence.

The company also conducts quality risk assessments and quality diagnoses. Through these efforts, we are reducing quality risks and implementing improved measures to prevent recurrence.

[Figure 2] Change in the number of product-related complaints



Voice

Isao Kurayama
RC Administration Section
RC/Engineering Department

Prevention of distribution accidents by reducing product transportation risks and establishment of a system to improve customer satisfaction

As well as chemicals such as semiconductor materials, electronic and electrical materials, adhesive agents, developers and water treatment chemicals, Chiba Plant also produces electronic parts. Due to this variety of products, customer demands for quality are extensive and diverse. We hope to increase customer satisfaction in cooperation with all those involved in all sections from manufacturing through distribution.

Chemicals and Product Safety

The Nippon Soda Group increases the confidence and trust of customers and the general public in it by taking into account possible hazards and danger that chemicals and products may have to safety, health and the environment, and complies with domestic laws and regulations, international standards, treaties and the like, as well as other regulations that are publicly demanded.

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.

Training on Korean chemical substance regulations
(At the Head Office on August 12, 2013)

CSR Audit (Theme audit)
(At Mizushima Plant on November 1, 2013)

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 hazardous and harmful effects 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 applies to prototypes.

▶Education and training

We provide employees who handle chemical substances with training on how to comply with laws and regulations regarding chemicals management. Training provided in fiscal 2013 included training for new/transferred employees as well as training on hazardous materials transportation, MSDS/label preparation, the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., the Industrial Safety and Health Act, and Korean chemical substance regulations.

▶Audits of the status of chemicals management

Plants and research centers where chemicals are used undergo regular audits of the status of their chemicals management as part of the CSR audit. In fiscal 2013, theme-based audits specifically addressing chemicals management were conducted at four plants and two research centers.

CSR Audit
(At Chiba Plant on January 29 and 30, 2014)

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

We prepare MSDSs and product labels according to the GHS requirements. Because the GHS is adopted globally, the Nippon Soda Group prepares MSDSs and product labels used in Japan, Europe, the U.S., China, Taiwan, Korea and other countries in such a way as to meet the GHS requirements.

▶Communication of safety information on chemicals

Nippon Soda participates in the Japan Challenge Program and has registered as a "sponsor" of 4-Hydroxy-4'-isopropoxydiphenyl sulfone and sodium diethyldithiocarbamate. As a registered sponsor, we have collected safety information on the chemical and submitted a safety information plan and report.

The Japan Challenge Program is a joint program between government and industry. Its objective is to accelerate the collection of safety information on existing chemicals and makes such information broadly and publicly available. This effort was completed in fiscal 2012, with safety information collected through the program published on the website of the Ministry of Economy, Trade and Industry since fiscal 2013.

The Nippon Soda Group also 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). Nippon Soda has prepared two safety summary reports—on hydroxypropyl cellulose and acetoxyazetidine—which have been registered on the ICCA portal page and made publicly available.

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 MSDS stands for Material Safety Data Sheet. An MSDS 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 MSDSs) of chemicals according to their hazards.

Voice Satoru Makita
RC Engineering Group
Department of Planning and Administration
Odawara Research Center

Improvement of chemicals management and implementation of training

A special audit was conducted last year at all worksites to determine how chemical substances are being managed. Odawara Research Center was included in the audit. The research center does not manufacture any products but handles various kinds of chemicals. Laws and regulations related to chemicals are becoming stricter every year. We therefore intend to place more emphasis on improving the management of chemicals to further increase public confidence in our company.

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

Dissemination of information on CSR/RC activities

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

❶ The CSR Report is available to anybody in the form of a brochure or via our website.
❷ Reports on activities and plans for activities are submitted to the Japan Chemical Industry Association and distributed at local and other meetings.
❸ Information on our activities is provided during tours of our offices and other gatherings.

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. Table 1 shows the number of external communication events held in recent years.

Table 1 External Communication Events

FY	Local gatherings	Tours of plants and research centers	Local dialogue meeting of JCIA RC Committee	Others
2011	20	35	4	73
2012	42	48	3	73
2013	40	92	2	122

Visitors from Brazil
(At Odawara Research Center on April 10, 2013)

Participation in “Science Festival for Children” (Waku-Waku Land Arai in Myoko City)
(Nihongi Plant on July 21, 2013)

Stakeholder engagement

Nippon Soda has received diagnoses, verifications, ratings, and third-party feedback as shown below. These results are incorporated into our efforts to accelerate the improvement of the PDCA cycle.

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

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

(2) Environmental Responsibility Rating from the DBJ

- FY 2009 Rank Matsu
- FY 2011 Rank Take

(3) Diagnosis of disaster prevention capability by Sompo Japan Nipponkoa Risk Management Inc.

❶ Aizu Plant of Nisso Metallochemical Co., Ltd.	May 30 and 31, 2013
❷ Chiba Plant	June 6, 2013
❸ Takaoka Plant	June 13 and 14, 2013
❹ Mizushima Plant	August 29 and 30, 2013
❺ Nihongi Plant	November 12 and 13, 2012

(4) Diagnosis of occupational accidents by Sompo Japan Nipponkoa Risk Management Inc.

❶ Takaoka Plant	February 6 and 7, 2014

The Nippon Soda Group participates in various environmental protection and safety activities and engages in stakeholder dialogues on the effects of chemical substances on the environment, safety and health to build trust with society. The Nippon Soda Group also complies with legal requirements to improve transparency.

(5) RC verification by the RC Verification Center of the Japan Chemical Industry Association

❶ Process Safety & Disaster Prevention
December 2, 2013, Takaoka Plant

❷ Occupational Safety and Health
January 21, 2014, Odawara Research Center

❸ Environmental Protection
February 4, 2014, Mizushima Plant

(6) Verification of the "CSR Report 2013" by the RC Verification Center of the Japan Chemical Industry Association

❶ Head Office June 12 and 18, 2013

❷ Nihongi Plant June 13, 2013

(7) Survey of "Environmental Oriented Management Index" by Nikkei Inc.

❶ 13th Survey (FY 2009)
Ranked 279th (among 484 participating companies)
❷ 14th Survey (FY 2010)
Ranked 338th (among 475 participating companies)
❸ 15th Survey (FY 2011)
Ranked 322th (among 449 participating companies)
❹ 16th Survey (FY 2012)
Ranked 310th (among 438 participating companies)
❺ 17th Survey (FY 2013)
Ranked 361th (among 429 participating companies)

(8) Toyo Keizai CSR Survey by Toyo Keizai Inc.

❶ The 8th Toyo Keizai CSR Ranking (FY 2013)
Ranked 410th (overall) among 1,210 companies

Compliance and Fair Operating Practices

The Compliance Committee, under the direct control of the President, was established as of May 1, 2003 to improve the compliance system and ensure corporate activities based on compliance with corporate ethics and laws and regulations.

By following the requirements specified in the Nippon Soda Group Code of Conduct, which is distributed to the management and employees of Nippon Soda and its consolidated companies, the Nippon Soda Group ensures its business activities are conducted in a sound manner. To raise awareness of the importance of complying with laws and regulations, training based on the Code of Conduct is regularly provided. Furthermore, any Nippon Soda Group employee who believes he or she has identified a violation is able to consult directly with the Compliance Committee or a legal adviser via a dedicated consultation office.

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.

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

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.

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.

In fiscal 2013, the 34th Company-wide Successful Achievement Presentation Meeting was held on November 29 (Friday), with 14 presentations made. Although held at Nihongi Plant, the event was filmed, with both video and audio streamed in real-time to all offices.

At the end of the meeting, Senior Executive Managing Officer Ito presented a token of appreciation to each presenter.

Presenters and organizers

Senior Executive Managing Officer Ito delivering an address

Participants listening to a presentation (front view)

Presentation themes/sections/ presenters

❶ **Study of the production period of aluminum chloride**
Kazuyoshi Nagasaki, Inorganic Chemicals Unit, Manufacturing Second Section, Nihongi Plant

❷ **Efforts for environmental compliance**
Masao Akeno, Environmental Management Section, RC Administration Department, Takaoka Plant

❸ **Antipollution measures for product cans**
Koichi Sugawara, Technical Department, Mizushima Plant

❹ **Efforts to reduce environmental risk**
Kazuhiro Tomatsu, RC Administration Section, RC/Engineering Department, Chiba Plant

❺ **Polysilane: Review of shift operation and improvement of the cleaning operation for exchanging facilities**
Yoshiaki Shimotori, FC Unit, Fine Chemicals Section, Nihongi Plant

❻ **Strength verification to prevent drive shaft breakage**
Kiyoyuki Iwata, Engineering Section, Engineering Department, Takaoka Plant

❼ **Examination of the water balance of the brine system**
Hiromi Kojima, Electrolysis Unit, Manufacturing First Section, Nihongi Plant

❽ **Succession and improvement of business at Administrative Section**
Mitsukuni Nada, Administrative Section, Manufacturing Department, Takaoka Plant

❾ **Stable operation of subzero freezers for PB base**
Shinichi Akiyama, FC1 Section, 1st Manufacturing Department, Chiba Plant

❿ **Improvement of storage operations for packaging materials for tableted products**
Keiichiro Majima, Specialty Chemicals Unit, Specialty Chemicals Section, Nihongi Plant

⓫ **Safety and stabilization of operation by installing water softeners**
Masahiro Sugata, Organic 3rd Group, Organic 2 Section, Manufacturing Department, Takaoka Plant

⓬ **Efforts to improve the SPC management of VP Polymers**
Makoto Nakajima, FC2 Section, 1st Manufacturing Department, Chiba Plant

⓭ **Review of the collection operation of sludge precipitated in wastewater sedimentation tanks**
Yoshihiro Ogawa, Utility Unit, Specialty Chemicals Section, Nihongi Plant

⓮ **Quality, environment and averting risk by separation of toluene facilities**
Akira Nakashima, Organic 2nd Group, Organic 1 Section, Manufacturing Department, Takaoka Plant

Contribution to society

As part of its efforts to contribute to society, Nippon Soda conducts cleanup activities in the vicinity of its business sites on a regular basis. The frequency of cleanup activities in recent years is shown in Table 2.

Table 2 Frequency of cleanup activities for local communities

FY	Number of local cleanup activities
2011	12
2012	11
2013	9

Springtime environmental cleanup
(Takaoka Plant, June 6, 2013)

Regular cleanup along Route 16
(Chiba Plant, November 13, 2013)

Cleanup of Takashima Road
(Mizushima Plant, May 24, 2013)

Voice

Yutaka Amako
Legal Section
General Affairs & Legal Group

Improvement of chemicals management and implementation of training

It is often regarded as important for businesses to promote not only their own development and profitability but also that of various stakeholders. Based on its belief that a company should serve as a public institution, the Nippon Soda Group promotes management that emphasizes regulatory compliance. While it is not always easy to ensure regulatory compliance in business, the Nippon Soda Group involves all of its employees in its corporate activities in order to promote regulatory compliance and maintain good relationships with various stakeholders.

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:

289 (as of the end of March 2014)
(including employees of Joetsu Nisso Chemical Co., Ltd.)

Number of employees of affiliates:

174 (as of the end of March 2014)

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

Located in a rural area at the base of Mount Myoko, Nihongi Plant focuses its efforts on maintaining the local environment and promoting communication with local communities. Concerted efforts are made by all employees to achieve CSR targets, comply with the principles of social responsibility, and contribute to society through business activities that take into account safety and health, environmental protection and quality assurance.

The policy of Nihongi Plant focuses on building trust in the following three areas in the course of its daily business activities:

- **Safety ...Trust of employees (zero accidents)**
  In business activities, we place the highest priority on the occupational safety and health of employees. This includes providing sufficient training to support the maintenance and improvement of our employees' health.
- **Environment ...Trust of local communities (zero environmental abnormalities)**
  Our efforts are focused on meeting our economic and legal responsibilities and contributing to environmental protection as a good corporate citizen so as to fulfill the expectations of society.
- **Quality ...Trust of customers (zero complaints)**
  To ensure that we live up to public expectations, we comply with internal rules, regulations, specifications and standards.

We provide employees with training and education on product safety to enhance customer satisfaction and gain customer trust.

As one of our efforts to strengthen relationships with local communities, we have established a blood donation center within the plant in cooperation with the local government. Both employees and local people visit the center to donate blood.

Our company will celebrate its centennial in 2020. With an eye toward this special 100th anniversary, we are working on promoting further growth under the vision "Chemigress to 100." Backed by our century-long history built on cooperation with local communities, we will lead the way forward toward the next 100 years.

Satoshi Tsukamura
Executive Officer
Plant Manager

Topics

Plant tour for families of employees

We organized a plant tour for the families of our employees for the first time in seven years on August 9, 2013.

Ranging in age from one to 78 years old, 107 family members representing 44 families toured the plant by bus and took part in a fun chemistry experiment where they got to make slime. At lunch, they ate together with employees, enjoying the same boxed lunches. We plan to organize this kind of event regularly from now on to promote friendly ties with local residents.

Progress status of CSR activities

Management system and organizational governance

Nihongi Plant appropriately implements, maintains and oversees the management systems for quality, the environment and occupational safety & health. We have completed the integration of these three systems into one in order to implement them more effectively.

Environmental protection

We have an assessment system to better understand environmental impacts that are posed by our plant activities. We take actions, through communication with local communities, to create and maintain an earth-friendly work environment to minimize the impact of our activities on the environment.

Occupational safety and health

Efforts are focused on constantly improving basic conditions for ensuring safety and OSHMSs for both mind and body to maintain an accident-free working environment in order to provide a healthy and happy working experience and ensure the safety of local communities.

Chemicals and product safety

We clarify the properties of individual chemicals contained in industrial products, food additives and pharmaceuticals as well as their proper handling methods. Efforts are made to protect the safety and health of all people and the environment. We prepare and provide safety data sheets.

Human rights/labor practices

Based on the basic policy of the Nippon Soda Group, and through specific implementation of the personnel system and proactive labor management discussion, we focus our efforts on "creating a work environment where all employees can find their work meaningful."

Process safety & disaster prevention/BCP

Efforts are made to prepare for a natural disaster resulting in extensive damage, so that in the case of such an event occurring we can confirm the whereabouts and status and ensure the safety of our employees and affiliate company employees and their families, as well as ensure the safety of residents in local communities.

Distribution safety, quality assurance and consumer issues

We take measures to ensure the quality of products from the consumer standpoint. Efforts are also made to prevent distribution-related accidents and disasters and ensure distribution safety in order to safely deliver better products to consumers.

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

We promote communication with local communities by organizing local gatherings to discuss environment-related issues, and by participating in local events.

Plant environment data

Note: Figures in parentheses show the change compared with the FY 2012 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 2013

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	
9,953 (+40)	22.6 (+3.7)	6.4 (+0.1)	19.4 (▲4.3)	9.6 (+0.2)	6.6 (▲1.1)	109.2 (+10.6)

Unit: t/year

Emissions of PRTR-designated substances in FY 2013

Substance name	Amount discharged		Amount transferred
	Air	Water	
Toluene	16.79 (▲2.36)	0.00 (0.00)	0.00 (0.00)
Fluorine	0.00 (0.00)	0.00 (0.00)	3.23 (+0.35)
Chloroform	3.00 (+0.56)	0.00 (0.00)	0.00 (0.00)
Designated substances: 15 substances Total emissions: 20.03 t Total amount transferred: 4.93 t			

Voice

Takahiro Iiyoshi
Electrolysis Unit
1st Industrial Chemicals Section
Production Department
Joetsu Nisso Chemical Co., Ltd.

Regular inspection of facility and regular training to maintain safety

The Electrolysis Unit of Joetsu Nisso Chemical Co., Ltd. manufactures, handles and supplies chlorine gas, which is classified as a toxic high-pressure gas under the High Pressure Gas Safety Act. Should chlorine gas leak from the facilities, the impact on workers' health as well as on local residents and the natural environment would be significant. We therefore place a high priority on facility inspections. To be prepared for an emergency, we also conduct regular drills in cooperation with the High Pressure Gas Safety Institute of Japan involving a scenario whereby a gas leak occurs and a call for emergency service is made to the disaster prevention office. More efforts will be made through CSR activities in order to achieve even safer operations.

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, AOSA, Topsin, STM, pesticide formulation products, etc.

Number of employees:

297 (as of the end of March 2014)

Number of employees of affiliates:

167 (as of the end of March 2014)

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

Located beside the Oyabe river, which flows into the resource-rich Toyama Bay, Takaoka Plant has a history and tradition of working together with residents of neighboring communities since its foundation in 1934. This year, we celebrate our 80th anniversary.

Throughout this long history, the plant has specialized in inorganic chemistry based on caustic soda, chlorine, hydrochloric acid and hydrogen, which are manufactured by brine electrolysis, a fundamental process of the chemical industry. Our other traditional areas of specialization are aluminum electrolysis and organic synthesis. Supported by technologies that have been developed and improved over the years, our business has extended to more general chemical-related activities, including the synthetic production of pharmaceutical intermediates and agrochemical substances as well as involvement in the pharmaceuticals sector. In cooperation with our affiliates and local suppliers and guided by the slogan “coexistence and co-prosperity,” we, Takaoka plant, focus on achieving CSR objectives so that we can contribute to local communities and society at large through the manufacturing of chemical products.

Despite fighting off fierce domestic competition, we have been systematically implementing and following through on annual projects as part of our BCP activities since the disaster three years ago. These projects include reinforcing the earthquake-resistance of our facilities, completing a new test analysis building, and upgrading aging facilities. In August last year, we unfortunately had an accident at our facility. It was a bitter experience but nobody was injured and we were able to prevent the leakage of any toxic substances. Following the incident, we reminded ourselves of the hazardous and toxic nature of the materials we deal with and reviewed and improved our risk management and other processes. We are now promoting the implementation and verification of measures to prevent a recurrence. To prepare for the coming retirement of a large number of employees nearing retirement age, we are making a special effort to hire younger people so that expertise and skills can be handed down from older to younger employees. We use safety training sessions as opportunities for retiring employees to share their expertise and skills with younger employees.

In order to maintain sound business operations for the next 10 years, we have set “Challenge 10 Takaoka” as our plant policy and are now making concerted efforts to address various issues. At our annual “Thanking Local Residents” event in October, we provide local residents with information on our activities and achievements. We believe that by explaining and providing information on our activities, we can gain the trust of the local people and be regarded by them as a safe plant, which will then help us to further contribute to local communities.

Akihiko Kikuchi
Executive Managing Officer
Plant Manager

Topics “Thanking Local Residents” event held each October to enhance our relationship with local residents and maintain trust.

The “Thanking Local Residents” event program includes various items designed to help participants know the plant better, such as an introduction to our products, a plant tour, a lab class on chemistry and an exhibition of photos taken during a disaster drill, a cleanup event around the plant and other events. Because we had an accident at our facility in August last year we set up a special booth to provide participants with an explanation of the background and causes of the accident and measures taken to address it.

Progress status of CSR activities

Management system and organizational governance

Our basic objective is "to comply with laws and regulations and implement sound and transparent plant management." In line with this, we set our goals, continue to make improvements and conduct regular reviews based on ISO 14001, OHSAS 18001 and ISO 9001.

Environmental protection

We comply with the standards for air and water emissions of harmful chemical substances. Efforts are also made to reduce emissions of PRTR-designated substances according to our chemicals management plan.

Occupational safety and health

We undertake risk assessments to reduce potential causes of hazards and implement four safety cycles to achieve "zero accidents." Guidance on mental health and other health problems is provided to promote the sound psychological and physical health of employees.

Chemicals and product safety

We prepare MSDSs and product labels to meet Japanese and overseas requirements. We also provide customers with the most updated product information to ensure "safe management" and "zero use-related problems."

Human rights/labor practices

Based on the basic policy of the Nippon Soda Group, and through specific implementation of the personnel system and proactive labor management discussion, we put effort into "creating a work environment where all employees can find their work meaningful."

Process safety & disaster prevention/BCP

Because we use hazardous, poisonous and deleterious substances as well as high-pressure gas at the plant, we take into account measures to prevent risks, such as ignition and explosion, during the design stage when constructing new facilities. With regard to existing facilities, we implement measures to maintain them in an appropriate condition and upgrade them on a regular basis.

Distribution safety, quality assurance and consumer issues

We conduct inspections of transport companies and provide them with education and training so that products are delivered safely. Efforts are also made to prevent quality complaints through quality risk assessments, quality inspections and quality meetings.

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

We continue to hold dialogues with the public on various occasions, such as "Thanking Local Residents" events and discussions with environmental monitors and neighborhood councils.

Plant environment data

Note: Figures in parentheses show the change compared with the FY 2012 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 2013	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	
	8,593 (▲6)	43.1 (▲7.8)	12.6 (+0.3)	35.7 (+0.2)	112.0 (+7.2)	5.8 (+3.4)	150.0 (▲85.0)

Unit: t/year

Emissions of PRTR-designated substances in FY 2013	Substance name	Amount discharged		Amount transferred
		Air	Water	
	Acetonitrile	2.78 (▲1.42)	0.00 (0.00)	2.60 (+0.67)
	Toluene	9.06 (+2.44)	0.00 (0.00)	30.21 (+6.01)
	Chlorobenzene	14.61 (+3.59)	2.14 (+0.52)	1.89 (+0.46)
	Designated substances: 26 substances Total emissions: 33.59 t Total amount transferred: 140.92 t			

Voice

Hisayoshi Suenaga
Occupational Health & Safety Management

An emergency drill to contain damage during a transport accident involving high-pressure gas products

In cooperation with the Prefectural High-pressure Gas-related Disaster Prevention Council, Takaoka Plant conducts emergency drills involving local residents and local fire and police stations at different sites. The objective of the drills is to prevent an accident, if one occurs, from spreading. They are designed to help people learn how to quickly take the correct emergency measures, notify the proper authorities, carry out relief activities, fight fires and perform detoxification, and communicate information to the public so that they can make appropriate emergency preparations. It is also intended to raise safety awareness in relation to the transportation of high-pressure gas.

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:

44 (as of the end of March 2014)

Number of employees of affiliates:

26 (as of the end of March 2014)

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

Mizushima Plant started operation in 1969 in Okayama Prefecture's Mizushima Industrial Area, which extends outwards from the mouth of the Takahashi river and enjoys an abundant supply of industrial water, oil and electricity as well as access to convenient land and sea transportation. In the beginning, the plant sourced its raw materials from neighboring companies. Keenly aware that we deal with cyanide in our production activities, all of our employees make concerted efforts to promote RC activities (environmental safety, occupational safety, product safety, process safety and disaster prevention). Guided by 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 focus our efforts on

- **ensuring high-level maintenance and management through perfect application of the 5Ss,**
- **complying with laws and regulations as well as agreements entered into by the plant, and**
- **setting principles and objectives and reviewing them on a regular basis.**

Based on these CSR Policies and Action Goals, all employees implement the PDCA cycle as part of their activities.

As in the previous year, no accidents resulting in an absence from work have been reported this year. With regard to environmental safety, we have achieved "no environmental abnormalities." We will continue our efforts to protect the environment. Our efforts will also be focused on manufacturing safe and high-quality products. In our CSR activities, we will continue our efforts to build closer relationships with local people. We have developed a new medium-term plan where "reform" is set as the plant-wide goal. To achieve this goal, all employees will be required to make a commitment to improving and innovating administrative and work operations, achieving "no accidents and no disasters," complying with laws and regulations, and creating a safe, secure and stable plant environment so that we can continue to maintain our position as a plant that is highly valued by society.

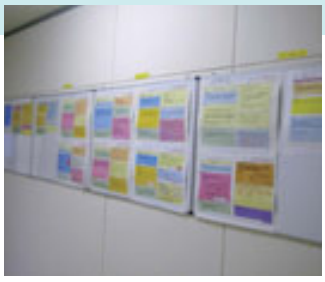
Izumi Takano
Plant Manager

Topics
"Visualization" of the plant

Mizushima Plant has been engaged in Mission Visualization (MV) activities since fiscal 2006. We apply a cooperative employee-driven approach rather than a top-down approach to promote ongoing activities. A presentation meeting to share results from MV activities is held twice a year. We will be continuing our efforts to promote "visualization" with the aim of every year achieving five goals set at the beginning of the year.

Presentation meeting

MV sheets displayed on bulletin boards



Progress status of CSR activities

Management system and organizational governance

Keenly aware that the plant deals with cyanide in its production activities, all employees at the Mizushima Plant make concerted efforts to promote RC activities and are guided by CSR principles in performing their duties.

Environmental protection

Our efforts are focused on saving energy and resources and reducing waste and harmful substances in line with environmental policies in order to minimize the impacts of our business activities on the environment.

Occupational safety and health

We promote measures aimed at achieving the goal of accident free workplaces in order to provide employees with a healthy and happy working experience. We also promote risk reduction activities through risk assessment.

Chemicals and product safety

We give due consideration to the impacts of chemical substances and products on the environment, safety and health. Furthermore, we comply with laws and regulations as well as publicly demanded requirements in order to earn greater public trust.

Human rights/labor practices

Based on the basic policy of the Nippon Soda Group, and through specific implementation of the personnel system and proactive labor management discussion, we focus our efforts on "creating a work environment where all employees can find their work meaningful."

Process safety & disaster prevention/BCP

To prevent major accidents at our facilities, we update and manage the facilities and promote safe, stable and trouble-free production activities. We also maintain a business continuity plan (BCP) that helps us to make continuous improvements.

Distribution safety, quality assurance and consumer issues

Efforts are focused on building trust with our customers and generating satisfaction among them as well as reducing the risks of in-transit accidents and preventing distribution-related accidents. As a shipper, we provide RC education to product transportation and storage companies once a year.

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

We participate in opportunities for dialogue with government agencies and local communities through the Emergency Communications Council and other organizations and also participate in local events to deepen the public's understanding of our business activities and build friendly relationships with local people.

Plant environment data

Note: Figures in parentheses show the change compared with the FY 2012 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 2013

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	
508 (▲60)	2.2 (▲0.4)	1.1 (▲0.1)	3.0 (▲0.5)	0.0 (0)	0.0 (0)	5.4 (▲3.3)

Unit: t/year

Emissions of PRTR-designated substances in FY 2013

Substance name	Amount discharged		Amount transferred
	Air	Water	
Inorganic cyanides	0.10 (▲0.07)	0.05 (0.00)	0.006 (▲0.003)
Acetonitrile	0.00 (0.00)	0.00 (0.00)	0.23 (▲0.21)
Xylene	0.00 (0.00)	0.00 (0.00)	0.03 (▲0.01)
Designated substances: 4 substances Total emissions: 0.15 t Total amount transferred: 0.27 t			

Voice

Toshitsugu Matsuura
Management Section

Communication with local communities

Mizushima Plant is located in an industrial complex in Okayama. Directly across the highway from us is a group of houses. Due to this location, we are constantly reaffirming our commitment to contributing to the development of local communities. Our efforts include dialogues with local residents via the Emergency Communications Council, which counts local residents' associations among its members, and organizing local cleanup and beautification activities designed to improve our already friendly relationship with local people. Keenly aware that we deal with cyanide, we focus our efforts on ensuring safe and stable operations and creating communities where local residents can live in complete safety.

Chiba Plant

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

Major products manufactured

NISSO-PB, VP Polymer, Titabond, ITO glass, D-90, Take-One, Merusan

Number of employees:

120 (as of the end of March 2014)

Number of employees of affiliates:

115 (as of the end of March 2014)

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

Chiba Plant is located in the Keiyo Industrial Complex and surrounded by numerous chemical factories. We also have an urban area across the national highway from us. This is the environment in which our production activities dealing with various kinds of chemical substances are carried out.

We believe that it is our responsibility to operate the plant in such a way that residents in neighboring areas recognize us as a trustworthy plant that handles chemicals in a safe manner. We place the highest priority on living up to this responsibility. We have both a computerized facility and a largely manually operated facility. We need to provide our employees with training in order to pass on the relevant skills and expertise and make sure they are constantly improving them.

We also provide CSR training and education to employees in line with the seven principles of social responsibility (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 then involve all employees in the implementation of the PDCA cycle in our business activities. Through these efforts, we are ensuring that we provide safe and high-quality products that help make society more safe, secure and prosperous.

Our efforts are focused on:

- **Increasing the trust of society through continuous improvement activities,**
- **Complying with laws and regulations and agreements made by the plant, and**
- **Setting principles and objectives and assessing and reviewing them on a regular basis.**

Atsuo Watanabe
Plant Manager

Topics

Received the best award in the fire engine section at the “2013 Ichihara City Early-stage Fire Control Competition”

On November 27, 2013, five members of the Chiba Plant Disaster Prevention Team’s Chemical Fire Engine Team participated in the fire engine section of the Early-stage Fire Control Competition held by the Ichihara City Fire Prevention and Safety Association. As a result of their long and hard training, the team won the competition for the first time in the plant’s history. This year, a state-of-the-art Class A ordinary chemical fire engine will be deployed. The team will continue their training to ensure safety and disaster preparedness.

Progress status of CSR activities

Management system and organizational governance

Concerted efforts by all staff are made to achieve RC activities in order to carry out sound and transparent corporate activities in compliance with laws and regulations. In business activities, all employees comply with CSR principles and use the PDCA cycle appropriately.

Environmental protection

The plant complies with the ISO 14001 Environmental Management System. This year, we successfully reduced our waste by 100 tons from the previous year. Under our general drainage management plan, we built a system to prevent abnormal wastewater discharge.

Occupational safety and health

We promote measures aimed at achieving the goal of accident free workplaces in order to provide employees with a healthy and happy working experience in accordance with the OHSAS 18001 Occupational Safety and Health Management System.

Chemicals and product safety

We give due consideration to the impacts of chemical substances and products on the environment, safety and health. Furthermore, we comply with laws and regulations as well as publicly demanded requirements in order to earn greater public trust.

Human rights/labor practices

Based on the basic policy of the Nippon Soda Group, and through specific implementation of the personnel system and proactive labor management discussion, we focus our efforts on "creating a work environment where all employees can find their work meaningful."

Process safety & disaster prevention/BCP

At least twice a year, in cooperation with public firefighters and a joint disaster response unit, we conduct disaster drills on the assumption of a disaster occurring on a weekday, at night or on a holiday. We also maintain a business continuity plan (BCP) that helps us to make continuous improvements.

Distribution safety, quality assurance and consumer issues

Efforts are made to reduce risks associated with the transportation and distribution of products in accordance with the ISO 9001 Quality Management System to prevent distribution accidents. We also make efforts to maintain quality assurance and contribute to improved customer satisfaction.

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

We take advantage of various opportunities to communicate with local communities and are actively involved in council meetings with other companies and activities to support volunteers.

Plant environment data

Note: Figures in parentheses show the change compared with the FY 2012 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 2013

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	
1,654 (▲576.4)	10.2 (▲6.6)	1.7 (+0.2)	—	—	—	4.8 (▲8.0)

Unit: t/year

Emissions of PRTR-designated substances in FY 2013

Substance name	Amount discharged		Amount transferred
	Air	Water	
Toluene	7.10 (▲0.87)	0.00 (0)	2.32 (▲0.43)
n-hexane	5.70 (+0.18)	0.00 (0)	0.00 (0)
1,3-butadiene	3.25 (+0.53)	0.00 (0)	0.00 (0)
Designated substances: 12 substances Total emissions: 16.63 t Total amount transferred: 39.14 t			

Voice

Takayuki Suda
RC Administration Section
RC/Engineering Department

Implementing higher levels of environmental management than legally required in order to protect the global environment

Located in the Keiyo Industrial Complex, Chiba Plant is required to ensure environmental management at a level higher than that required by laws and regulations in order to ensure global environmental protection. In response, we have established environmental ISO systems and our own monitoring system to ensure compliance with legal requirements and the improvement of the environment in the vicinity of the plant and in neighboring communities on a day-to-day level.

Odawara Research Center

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

Shinsuke Sano
Executive Officer
Research Center General Manager

CSR Activity Report

Odawara Research Center covers the following three areas: Odawara District in Kanagawa, Haibara District in Shizuoka and Bandai District in Fukushima. The Research Center mainly promotes the research and development of agricultural chemicals to meet dietary needs and contributes to improving standards of living.

In our research and development activities, we place emphasis on occupational safety and health, environmental protection, and chemicals and product safety. In our efforts for occupational safety and health, we have been promoting KYT and the identification of "*hiyari-hat*" (near miss) accidents with the aim of raising safety awareness. Our efforts in environmental protection are focused on reducing the environmental impact of our business activities by saving energy and reducing emissions of toxic substances and industrial waste. Because we deal with a wide variety of chemicals, we ensure compliance with relevant laws and regulations and improve our 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, we focus our efforts on "creating a work environment where all employees can find their work meaningful."

Topics

Enhancement of seismic resistance of buildings by the reduction method

The biocide building was originally built by a former landowner before Fine Chemical Laboratory (present Odawara Research Center) was opened in 1974. Since the opening of the laboratory, the first floor of the building had been used as an electrical substation and utility space while the second and third floors were used as laboratories. As a result of seismic diagnosis, however, it was determined that the building lacked sufficient strength. We therefore moved the functions located on the second and third floors to another building and renovated the building to remove the upper floors. This renovation reduced the weight of the building and enhanced its seismic resistance.

Before

After

Voice

Hiroshi Dairiki
Department of
Biological Research

Safety for users, manufacturers and the environment

Odawara Research Center is engaged in research to create biologically active substances. Even at the raw materials stage, we prioritize selecting chemicals with low toxicity in order to minimize the toxicity of products with respect to users, factory workers and the environment.

Laws and regulations for chemical substances are constantly changing. We therefore make sure that we stay up to date with the latest information in developing our products.

Chiba Research Center

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

Akira Kaneko
Executive Officer
Research Center General Manager

CSR Activity Report

The basic policy of Chiba Research Center is to contribute to society through the development of highly functional chemical products by effectively using the technology and knowledge gained since our foundation. Regarding it as our top priority to develop products while earning the confidence of society, all staff members are engaged in CSR activities.

Because we deal with a wide variety of chemicals, we ensure compliance with relevant laws and regulations. We frequently hold dialogues with stakeholders to discuss the impacts of these chemicals in terms of environmental protection, occupational safety and health, and chemicals and product safety in order to further improve the general public's confidence in us. Thanks to our various routine activities to ensure safety and environmental protection, we last year achieved "8,000 days with no work-related accidents resulting in absences from work" and "zero environmental abnormalities."

Our efforts are also focused on complying with legal requirements and increasing transparency regarding both compliance issues and R&D activities that pose risks to society and the environment.

Moreover, based on the basic policy of the Nippon Soda Group and through specific implementation of the personnel system and proactive labor-management discussions, we focus our efforts on "creating a work environment where all employees can find their work meaningful."

Topics

Preparation for the revision of ISO 9001 and ISO 14001

Chiba Research Center is certified in ISO 9001, ISO 14001 and OHSAS 18001.

Following the upcoming 2015 revision of ISO 9001 and ISO 14001, Annex SL (consistent structure, common text and terminology) of the Supplement to the ISO/IEC Directives (guidance for technical operations) will be applied to all the ISO Management System specifications in May 2015. To be prepared for this, we are conducting surveys and research with respect to Annex SL in order to reflect the changes in our new manuals.

Our efforts to be prepared for the 2015 revision of ISO 9001 and ISO 14001 include the identification of changed requirements in the currently available ISO/CD 9001: 2015 & ISO/CD 14001: 2015 in order to gain a practical understanding and establish a system that is suitable for our research center.

Voice

Hiroyuki Mori
Department of Administration

Local cleanup activities

Within the industrial complex in Ichihara City, Chiba, we clean sidewalks along Route 16 and its median strips four times a year (in February, June, September and November). In the Chiba District, where Nippon Soda is located, volunteers from Chiba Plant, Chiba Research Center and Nisso Metallochemical's Chiba Plant join in a cleanup activity, collecting two small trucks' worth of garbage in roughly one hour.

Nippon Soda Group Companies

Manufacturing group company

Nisso Metallochemical Co., Ltd.

Certified with ISO 14001/ISO 9001

Katsunori Mikuma
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.

Outline of business

Our efforts are continuously focused on becoming a sought-after supplier based on the following three business areas: waste treatment, non-ferrous metals (zinc alloys), and industrial chemicals (sulfuric acids). As a Fukushima-based company, we commit ourselves to supporting restoration activities and contributing to the development of local communities.

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: 7,282 million yen (FY 2013)
- Number of employees: 123 (as of the end of March 2014)

* 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.

Certified with ISO 14001/ISO 9001 Equipped with GMP-certified facilities

Gaishi Fujita
Representative Director and President

Nisso Fine Co., Ltd. focuses on improving its expertise and systematically integrating its skills in the fields of sales development, technology and production, so that we can respond to all kinds of needs, 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.

Outline of business

To continue to fulfill our customers' expectations, as a reliable partner we seek to enhance our organizational vitality in order to promote our business in the contract manufacturing and marketing of functional dyes, functional resins, and 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.

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: 10,050 million yen (FY 2013)
- Number of employees: 208 (as of the end of March 2014)

* 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

Nisso Metallochemical Co., Ltd. (Others)
Nisso Fine Co., Ltd. (Chemicals)
Shinfuji Kaseiyaku Co., Ltd. (Agro Products)
ALKALINE SAS (Chemicals)
Nisso Namhae Agro Co., Ltd. (Agro Products)
Joetsu Nisso Chemical Co., Ltd. (Chemicals)

NIPPON SODA CO., LTD.

Non-manufacturing group company

Nisso Shoji Co., Ltd. (Trading)
Sanwa Soko Co., Ltd. (Transportation and Warehousing)
Nisso Engineering Co., Ltd. (Construction)
Nisso Kensetsu Co., Ltd. (Construction)
Nisso Green Co., Ltd. (Agro Products)
NISSO AMERICA INC. (Agro Products)
NISSO CHEMICAL EUROPE GmbH (Agro Products)

Manufacturing group company

Shinfuji Kaseiyaku Co., Ltd.

Certified with ISO 14001/ISO 9001

Ikuo Fujita
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.

Outline of business

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.

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: 1,072 million yen (FY 2013)
- Number of employees: 65 (as of the end of March 2014)

Manufacturing group company

ALKALINE SAS

Certified with ISO 14001/ISO 9001

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.

Outline of business

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.

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.

Siège social 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: 69.957 million EUR (FY 2013)
- Number of employees: 257 (as of the end of March 2014)

Group Companies

Manufacturing group company

Nisso Namhae Agro Co., Ltd.

Hiroyuki Uryu
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.

Outline of business

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 2013 and manufactured products are provided by Nippon Soda to customers around the world.

Yeosu Head Office:
1384, Yeosusandan-ro, Yeosu-si, Jeollanam-do, 555-716, 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, 100-705, S. Korea
Tel: +82-2-2267-2708 Fax: +82-2-2267-2724

- Established: June 2011
- Capital: 32,640 million won
- Net sales: 34,680 million won (FY 2013)
- Number of employees: 28 (as of the end of March 2013)

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.

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

Manufacturing group company

Nisso Metallochemical Co., Ltd. (Others)
Nisso Fine Co., Ltd. (Chemicals)
Shinfuji Kaseiyaku Co., Ltd. (Agro Products)
ALKALINE SAS (Chemicals)
Nisso Namhae Agro Co., Ltd. (Agro Products)
Joetsu Nisso Chemical Co., Ltd. (Chemicals)

NIPPON SODA CO., LTD.

Non-manufacturing group company

Nisso Shoji Co., Ltd. (Trading)
Sanwa Soko Co., Ltd. (Transportation and Warehousing)
Nisso Engineering Co., Ltd. (Construction)
Nisso Kensetsu Co., Ltd. (Construction)
Nisso Green Co., Ltd. (Agro Products)
NISSO AMERICA INC. (Agro Products)
NISSO CHEMICAL EUROPE GmbH (Agro Products)

Non-manufacturing group company

Nisso Shoji Co., Ltd.

Certified with ISO 14001

Yasuhiko Otaki
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.

Outline of business

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.

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

- Established: December 6, 1939
- Capital: 401 million yen
- Net sales: 40,575 million yen (FY 2013)
- Number of employees: 153 (as of the end of March 2014)

Non-manufacturing group company

Sanwa Soko Co., Ltd.

Certified with ISO 9001 Received Green Management Certification

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.

Outline of business

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.

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: Yokohama New Kannai Building 7F, 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: 5,283 million yen (FY 2013)
- Number of employees: 201 (as of the end of March 2014)

Group Companies

Non-manufacturing group company

Nisso Engineering Co., Ltd.

Certified with ISO 9001

Kazuhiro Muto
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.

Outline of business

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.

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: 14,006 million yen (FY 2013)
- Number of employees: 133 (as of the end of March 2014)

* 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.

Certified with ISO 9001

Satoshi Arai
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, our efforts are focused on becoming the most outstanding and reliable company in the Joetsu region and contributing to the development of local communities.

Outline of business

We are a Nippon Soda Group company engaged in civil engineering, architectural design and construction. Working mainly in Niigata's Joetsu region, we are engaged in the design and construction of private and public works as well as Nippon Soda Group projects. Specifically, we provide services that address our customers' needs in relation to the construction of housing, stores, factories, clinics and hospitals, and elderly care facilities, thereby helping to build a better society.

1169 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: 2,461 million yen (FY 2013)
- Number of employees: 24 (as of the end of March 2014)

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

Manufacturing group company

Nisso Metallochemical Co., Ltd. (Others)
Nisso Fine Co., Ltd. (Chemicals)
Shinfuji Kaseiyaku Co., Ltd. (Agro Products)
ALKALINE SAS (Chemicals)
Nisso Namhae Agro Co., Ltd. (Agro Products)
Joetsu Nisso Chemical Co., Ltd. (Chemicals)

NIPPON SODA CO., LTD.

Non-manufacturing group company

Nisso Shoji Co., Ltd. (Trading)
Sanwa Soko Co., Ltd. (Transportation and Warehousing)
Nisso Engineering Co., Ltd. (Construction)
Nisso Kensetsu Co., Ltd. (Construction)
Nisso Green Co., Ltd. (Agro Products)
NISSO AMERICA INC. (Agro Products)
NISSO CHEMICAL EUROPE GmbH (Agro Products)

Non-manufacturing group company

Nisso Green Co., Ltd.

Yoshiki Masuoka
President

As a member of the Nippon Soda Group, we adopted CSR practices in April 2014 with the aim of maintaining and enhancing safety, environmental protection and quality. Our efforts are focused on promoting the development, safety and stable supply of products and technology such as agrochemical materials for golf courses and home gardening. Through these efforts, we will improve our corporate value and ensure transparent management so as to be recognized as the best in the industry.

Outline of business

Nisso Green Co., Ltd. has been expanding its business in agrochemicals for golf courses, agrochemicals for home gardening, foliar spray fertilizers, forestry materials, materials for civil engineering and landscape gardening, and materials for raising seedlings. More efforts will be focused on continuing to grow our business as well as contributing to greening the environment using our materials.

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

- Established: April 1, 1999
- Capital: 50 million yen
- Net sales: 1,918 million yen (FY 2013)
- Number of employees: 13 (as of the end of March 2014)

Non-manufacturing group company

NISSO AMERICA INC.

Kazuhiko Murahashi
President & COO

To support the achievement of the long-term vision "Chemigress to 100," which is adopted with an eye toward the 100th anniversary of Nippon Soda, NISSO AMERICA INC. focuses its efforts on increasing Nippon Soda's share of markets and profits in the United States and Canada as well as contributing to the further development of the agricultural, healthcare, environmental and information sectors in the two countries.

Outline of business

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.

88 Pine Street, Wall Street Plaza, 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: 45.341 million USD (FY 2013)
- Number of employees: 10 (as of the end of March 2014)

Non-manufacturing group company

NISSO CHEMICAL EUROPE GmbH

Atsuo Omi
President

NISSO CHEMICAL EUROPE ensures a stable supply of key products to the European market as well as to the CIS and Northern African markets to help the Nippon Soda Group develop its business globally. At the same time, the firm plays an important role in raising living standards in these regions.

Outline of business

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.

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: 62.072 million EUR (FY 2013)
- Number of employees: 13 (as of the end of March 2014)

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: +81-436-23-2012

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: Sumitomo Seimei Sendai Bldg., 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: 159/16 Serm- MitTower, 10th FL Room no.103-6 Sukhumvit 21(Asoke)Rd., Klongtoey-Nua, Wattana, Bangkok 10110, Thailand
Tel: +66-0-2661-6433

Group Companies in Japan

Chemicals

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

Logistics

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

Trading

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

Engineering

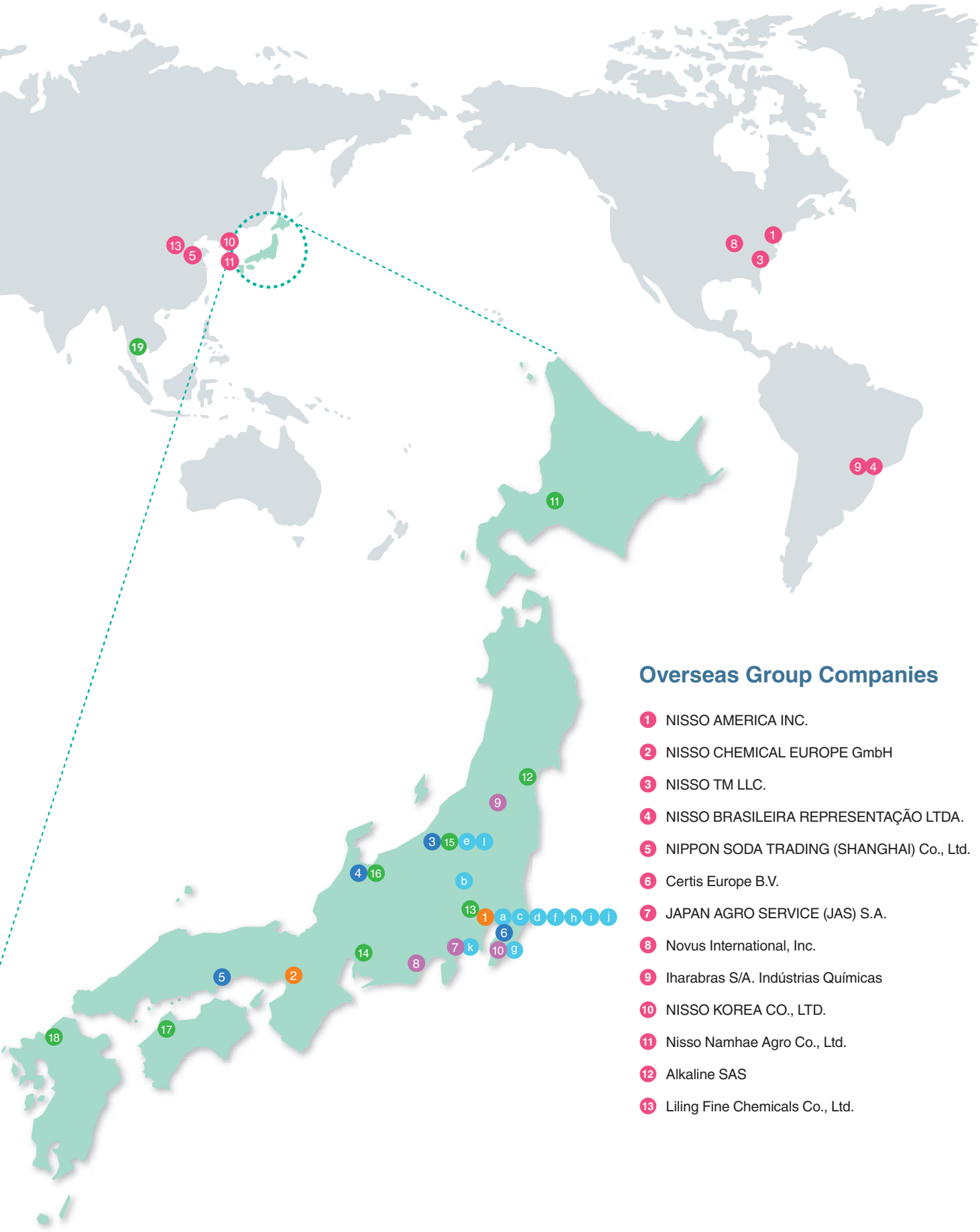
j Nisso Engineering Co., Ltd.

R&D Consultants

k Nisso Chemical Analysis Service Co., Ltd.

Civil Engineering and Construction

l Nisso Kensetsu Co., Ltd.



Overseas Group Companies

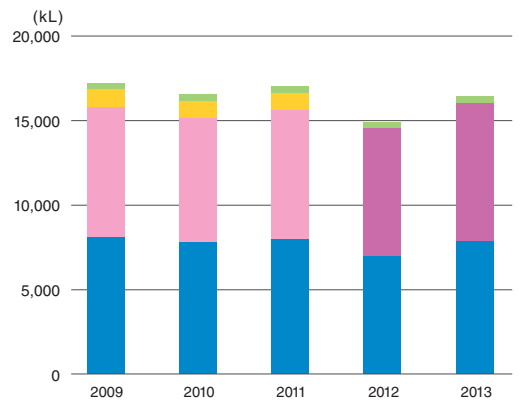
1. NISSO AMERICA INC.
2. NISSO CHEMICAL EUROPE GmbH
3. NISSO TM LLC.
4. NISSO BRASILEIRA REPRESENTAÇÃO LTDA.
5. NIPPON SODA TRADING (SHANGHAI) Co., Ltd.
6. Certis Europe B.V.
7. JAPAN AGRO SERVICE (JAS) S.A.
8. Novus International, Inc.
9. Iharabras S/A. Indústrias Químicas
10. NISSO KOREA CO., LTD.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

Nippon Soda Group Environmental Data Sheet

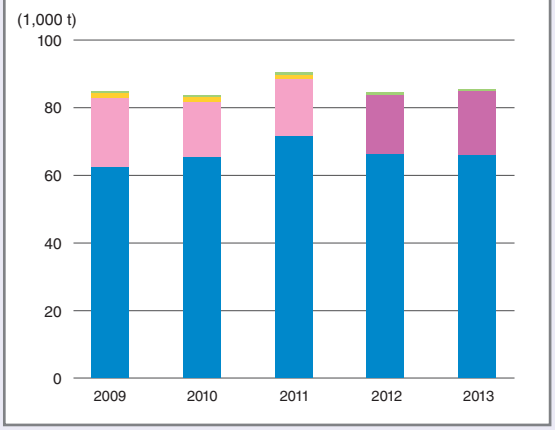
Manufacturing group companies

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

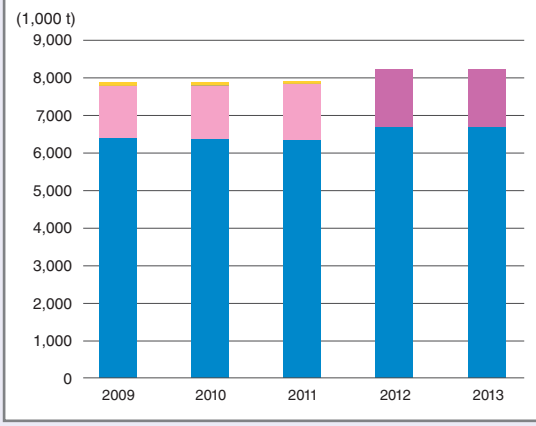
Change in energy consumption (in crude oil equivalent)



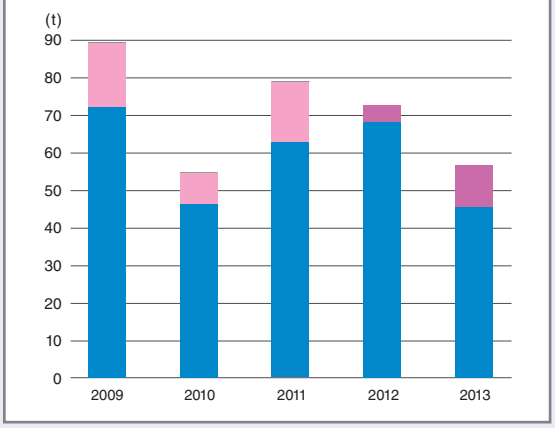
Change in the amount of carbon dioxide emissions



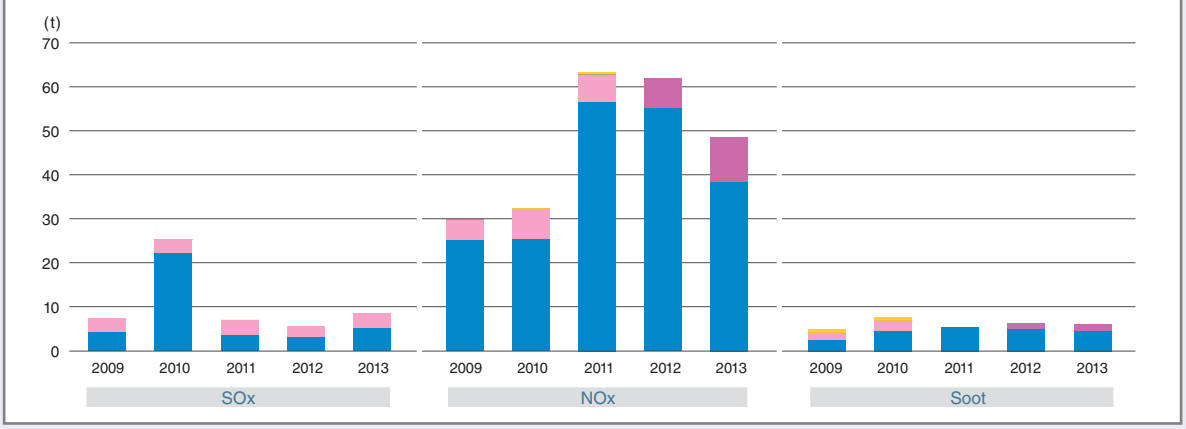
Change in the total volume of discharged water



Change in the amount of BOD and COD emissions



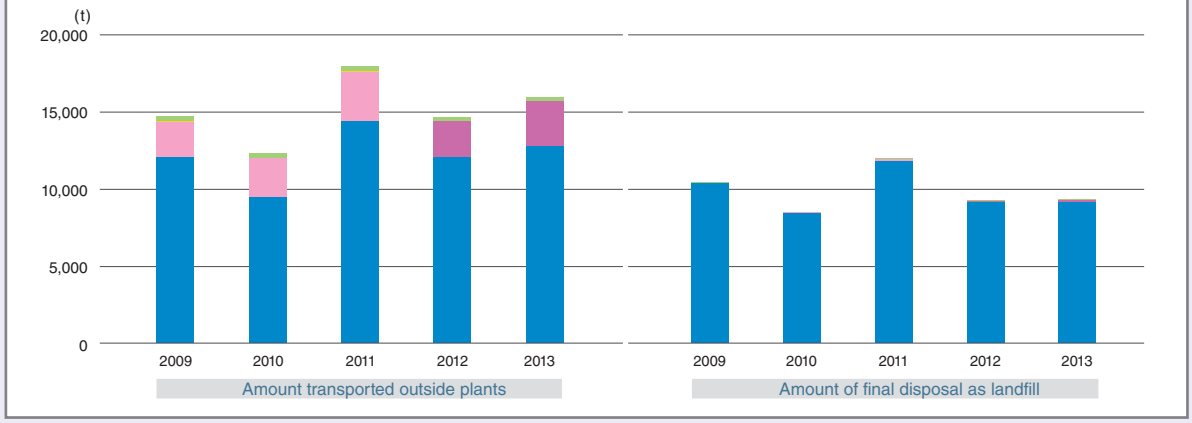
Change in the amount of emissions of substances controlled by the Air Pollution Control Act



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.

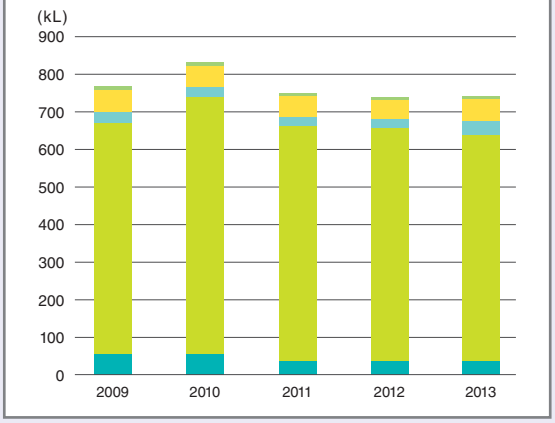
Change in the amount of industrial waste emissions



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

In 2012, Nisso Green disposed of its stock due to the discontinuation of production and sales.

Measures taken to address violations of laws and regulations

Nippon Soda

1) 5/12 Violation of the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. at Chiba Research Center: Engaging in commercial sales without issuing a notification of a new chemical substance (hard coating agent) in a small quantity as required by the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Cause: A staff member in charge at Chiba Research Center mistook the Existing Chemical Substance Number under the Industrial Safety and Health Act for the registration number under the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. In addition, a staff member in charge at the Environment & Quality Management Department accepted without question the report stating that the product was an existing chemical substance and failed to reconfirm its status. The product was thus manufactured for commercial use as an existing chemical substance. Measures to prevent recurrence: The system was improved as described in the following. Any person who requests the manufacture of a product will be required to attach a checklist for the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc./the Industrial Safety and Health Act to the request form, which must include descriptions as to whether or not registration as a small-quantity new chemical substance, a low production volume chemical substance, or an ordinary new chemical substance has been made under the first-mentioned Act; the chemical substance number under the same Act; descriptions as to whether or not registration as a small-quantity new chemical substance, a low production volume chemical substance, or an ordinary new chemical substance have been approved under the Industrial Safety and Health Act; and the chemical substance number under the same Act.
2) 6/19 Violation of the wastewater agreement at Chiba Plant: The COD level in wastewater at 12:00 was 25.7 mg/L, which exceeded the agreed-upon amount of 23 mg/L. Cause: When a net in a ditch was removed after weeding in order to remove weeds left in the ditch, the water that had been stopped by the weeds was suddenly flushed out and algae attached to the walls of the ditch was dislodged and became mixed with the water. Measures to prevent recurrence: Careful attention will be paid to prevent algae from growing. The ditch will be cleaned regularly to remove any algae.
3) 8/11 Fire at Topsin manufacturing facility of Takaoka Plant. Please refer to page 33.
4) 12/5 Violation of the wastewater agreement at Nihongi Plant: During a plant inspection to collect wastewater conducted by Joetsu City, the level of suspended solids (SS) was measured at 250 mg/L, which exceeded the standard SS content of 40 mg/L. Cause: When a mixer that is not usually operated was operated for testing, SS deposited in the equalization tank in the facility to confirm the final treatment of wastewater floated up and was released. Measures to prevent recurrence: An inverter was installed in the mixer and it was decided to keep the mixer operating continuously at a low speed to prevent sludge formation. The amount of deposited sludge will be measured twice a year and, if necessary, the deposited sludge will be collected by a vacuum truck.

Nippon Soda Group companies

1) 7/12 Violation of the Waste Management and Public Cleansing Act at Chiba Plant of Nisso Metallochemical Co., Ltd. Details: Missed the deadline for returning the Manifest D and E slips to the waste-discharging company. Cause: The person in charge failed to return the slips and there was no system in place to prevent this. Measures to prevent recurrence: The electronic book will be configured to display a warning when the deadline is nearing. A "double-check" system will be established and a legal requirements checklist will be created to monitor the manner in which requirements are addressed.
2) 8/19 Violation of the Waste Management and Public Cleansing Act at Aizu Plant of Nisso Metallochemical Co., Ltd. Details: Missed the deadline for returning the Manifest E slip to the waste-discharging company. Cause: The slip was mixed in and stored with the C slip that is required to be stored in accordance with company regulations and there was no system to check whether or not the slip has been returned. Measures to prevent recurrence: Staff will be required to perform a double check before storing the C slip, to limit access to the returning system, and to regularly check the status of returning C slips.
3) Aizu Plant of Nisso Metallochemical Co., Ltd. (40 cases of CO abnormality at the industrial waste incinerator, 4 cases of abnormal discharge of wastewater (heavy rain, etc.). Details of CO abnormality: The level of carbon monoxide in gas emitted from the industrial waste incinerator for one hour exceeded the standard level of average carbon monoxide concentrations of 100 ppm. Cause: Reduced combustibility in the combustion chamber due to the high water-containing property of a large quantity of industrial waste that was received under a new contract. Measures taken: A moisture controller for the industrial waste concerned was installed and waste will not be placed inside the combustion chamber until its internal moisture level is adjusted. Details of the abnormal discharge of wastewater: The pH of discharged water deviated from the standard pH range due to heavy rain. Cause: As a result of both a sudden downpour and typhoon-related rain, the amount of rainwater that entered the wastewater treatment plant exceeded its treatment capacity. Measures to prevent recurrence: The water drainage routes in the plant were reviewed and improved in such a way that treated wastewater and rainwater will be separated to prevent excess entry of water into the treatment facility.
4) 1/9 Release of sulfuric acid white smoke at Chiba Plant of Nisso Metallochemical Co., Ltd. Details: A flange at the lower part of a heat exchanger was opened causing residual sulfur trioxide to leak out and produce white smoke (sulfuric acid mist formed by the reaction of residual sulfur trioxide with water in the air). Cause: The worker opened the flange without noticing that the pipe was clogged and sulfur trioxide remained trapped inside. The pipe was clogged with ferrous sulfate crystals. Measures to prevent recurrence: The clogged part was reconfigured so that the part can be visually observed from the outside and it was determined that regular monitoring would be conducted and pipes would be regularly upgraded.
5) 3/16 Please refer to "Small fire caused by industrial waste at Onahama Plant" of Nisso Fine Co., Ltd. on page 34.
6) 3/26 Please refer to "Fire caused during subdivided packaging of toluene" at Koriyama Plant of Nisso Fine Co., Ltd. on page 34.

Japan Chemical Industry Association

Responsible Care Verification Report

Responsible Care Verification Report

February 26, 2014

To Yutaka Kinebuchi
Representative Director and President
Nippon Soda Co., Ltd.

■Objectives of Verification

Responsible Care Verification is conducted to verify the progress of activities of companies that promote responsible care activities according to the Responsible Care Codes (Codes of Conduct).

■Scope of Verification

The Responsible Care (RC) Verification was conducted at business sites according to the schedule given below:

<Assessment modules>	<Sites verified>	<Dates of verification>
Process safety and disaster prevention	Takaoka Plant	2013/12/2
Occupational safety & health	Odawara Research Center	2014/1/21
Environmental protection	Mizushima Plant	2014/2/4

■Verification Procedures

The verification was conducted by verifiers according to the standard operating procedures for verification as described below:

- Verification based on documents outlining responses to a questionnaire on activities that correspond to the RC Codes selected for this verification and attached materials
- Verification based on interviews with the RC manager and staff in charge of RC at each plant, review of relevant documents, and on-site inspections

■Comments on RC Activities

Overall/common

- With regard to the "selection of important issues and their appropriateness" for all codes assessed in this verification, we commend all worksites for having selected issues that took into account their characteristics and appropriately implemented activities to address their selected issues.
- Because it is also very important to implement risk assessment (RA) for "process safety and disaster prevention," "occupational safety and health," "environmental protection" and other codes, we expect that you will establish a risk assessment system for these areas as early as possible.
- We also anticipate that the overall company RC audit will be conducted in line with RC ethics.

Process safety and disaster prevention

- With regard to the safety of facilities, we commend you for having assessed the level of importance of facilities in order to ensure the proper management of facilities ranked A.
- We commend the system whereby safety reviews of facilities are conducted by the plant manager as the responsible person and reviewers appointed from the departments concerned. It is expected, however, that more effective methods will be considered for the review of large-scale facilities. For example, reviewers should be nominated from throughout the company.
- It is extremely important for management to respond to problems, accidents, abnormalities and proposals for HH. Some issues remained unresolved for over a year. Improvement in this regard is expected.

Occupational safety & health

- We commend the RC meetings of each department that, as part of safety activities, are conducted in collaboration with partner companies.
- In 2013, an injury involving a mower and an accident involving broken glassware were reported. We expect that a specific plan for preventing recurrence, including the collection of information about company-wide accidents with the goal of achieving zero accidents, will be developed and the PDCA cycle will be implemented in such a way as to reinforce efforts to achieve zero accidents.

Environmental protection

- We commend the inclusion of wording to the following effect in the plants' CSR and RC policies: Strongly recognizing that the plant deals with cyanide in its production activities, employees promote RC activities.
- We appreciate that all employees are involved in plant improvement activities and Mission Visualization (MV) activities and are given an opportunity to present the outcomes of their activities in order to promote environmental and safety improvements.
- Inspection and monitoring of waste treatment companies have not been conducted since 2006. It is expected that regular inspection and monitoring will be conducted appropriately, with the properties of various types of waste taken into account.

Junji Takase

Junji Takase
Chief Director
Responsible Care Verification Center
Japan Chemical Industry Association

Third Party Verification Report on the Nippon Soda Group CSR Report 2014

Nippon Soda Group CSR Report 2014
Third Party Verification Report

June 23, 2014

To Yutaka Kinebuchi
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 2014 (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 with regard to the following matters:

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

■Verification Procedures

- At the Head Office, the reasonableness of methods used to aggregate numeric values reported by each site (office, plant) and the accuracy of reported information other than numeric values were assessed through interviews with managers responsible for each task and those who were responsible for the preparation of the reports and based on materials and explanations provided by them.
- At Chiba Plant, the reasonableness of the method used to calculate numeric values and the accuracy of numeric values and information presented in reports submitted to the Head Office were assessed. The assessment was made through interviews with managers responsible for each task and those responsible for the preparation of the reports, based on materials and explanations provided, and by the checking of evidence.
- Numeric 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 (numeric values) and the accuracy of numeric values
   - Both the Head Office and Chiba Plant applied rational methods to calculate and aggregate numeric values. Within the scope of the assessment, the values for performance were accurately calculated and aggregated. It is expected that there will be efforts to ensure quicker aggregation of data to be reported to the Head Office.
2) The accuracy of reported information
   - It was confirmed that the information presented in the reports was accurate. At the draft stage, we pointed out some sections that needed to be improved in terms of the appropriateness of descriptions or the intelligibility of sentences. In this version, however, these points have been corrected and there are no particular points needing further correction.
3) Responsible care activities
   - We commend your efforts in 2014 in expanding CSR activities throughout group companies since the adoption of CSR in April 2012 and the system that facilitates the efforts.
   - It is regrettable that a number of accidents and problems occurred in fiscal 2013, as in the previous year. It is expected that drastic measures will be adopted to make further improvements in preventing accidents and problems with an eye toward the 100th anniversary.
   - We commend Chiba Plant for having developed and implemented its own wastewater management standards.
4) Characteristics of the report
   - This year's report included a special article on agro products and chemical products. We commend your efforts to provide readers with clear explanations as to why these products have been supported around the world for many years.
   - In the Topics section, results of a survey on CSR activities at overseas group companies were reported. We commend your efforts to provide useful feedback that will help the group improve its CSR efforts.
   - It is expected that further efforts will be made to make the entire report easier for readers to understand and to improve its readability, particularly in terms of descriptions of worksites and group companies.

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 28, 2014

Yutaka Kinebuchi
Representative Director and President
Nippon Soda Co., Ltd.

Re: Opinion on Property Conservation Survey

Dear Mr. Kinebuchi,

Below is a brief summary and our opinion on the property conservation survey.

The objective of a property conservation survey is to contribute in improving the property loss prevention level of the plant by providing recommendations for improvement based on on-site surveys and interviews in view of six perspectives, including fire risk and fire prevention.

A survey covering the following items was conducted: exposures, buildings, fire risk, fire protection, fire prevention and natural hazard. A progress review addressing recommendations submitted in the previous survey was also conducted.

<Targets and schedule of property conservation survey>

2013/6/6	Chiba Plant	FC Section, 1st Manufacturing Department
2013/6/13-14	Takaoka Plant	1st Organic Products Section, 1st Organic Products Department; and Industrial Chemicals Unit, Industrial Chemicals Section
2013/8/29-30	Mizushima Plant	Plant No. 1 and Plant No. 2
2013/11/14-15	Nihongi Plant	FC Section and Specialty Chemicals Section, Manufacturing Department
2013/5/30-31	Aizu Plant of Nisso Metallochemical Co., Ltd.	1st Environment Section and 2nd Environment Section, 1st Manufacturing Department

<Overall>

- The action goals regarding CSR and RC (responsible care) activities for fiscal 2013 was set as "process safety and disaster prevention," "chemicals and product safety" and other issues in order to promote further improvement. The results were assessed and reflected in next year's planned activities. We value this practice.
- Improvements have been made with regard to most of the issues for which we made recommendations in the 2012 survey. We value this achievement.
- In the fiscal 2013 survey, we placed the highest priority on the prevention of accidental fires resulting from the hot work. We value the fact that all plants have established a "Hot Work Management System" and strictly follow this system. At other companies, fires were reported a few hours after the completion of work. It is therefore encouraged to monitor the hot work area for a possible fire until a few hours after the completion of work.

<Plants>

The following are our comments and recommendations for improvement:

1. [Chiba Plant] We value the current practice that the plant has been conducting not only drills required by laws and regulations but also the plant's own emergency drills (earthquake/tsunami evacuation drills, training for an emergency shutdown of production facilities, etc.).
2. [Takaoka Plant] We value that the plant has been implementing seismic countermeasures such as seismic retrofit work of soda production facilities, installation of flexible connection to the pipes, etc., for critical facilities based on the business continuity plan (BCP). It is also noteworthy that a higher emphasis is being placed on the training of new employees, such as simulation training for handling chemical substances and training on how to respond to abnormal reactions in the process.
3. [Mizushima Plant] We value the employees for their strong recognition of the fact that they deal with hazardous chemicals, and the plant for taking various measures to prevent such substances from spilling outside the premises.
4. [Nihongi Plant] In view of its location in an area that receives heavy snowfalls, we value that rehabilitation work of the old warehouse and other buildings are underway according to the plan.
5. [Aizu Plant] It is encouraged that more efforts will be made to eliminate ignition sources in the receiving and processing of industrial waste that may involve a risk of fire. It is also encouraged to make further efforts to ensure initial fire fighting capacity and the control of fire spread risk.

Sincerely,

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

Opinion on the occupational health and safety survey

Sompo Japan Nipponkoa Risk Management

March 28, 2014

Yutaka Kinebuchi
Representative Director and President
Nippon Soda Co., Ltd.

Re: Opinion on the occupational health and safety survey

Dear Mr. Kinebuchi,

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

The objective of the survey is to provide a proposal to further reduce occupational accidents at the FC Section of the Fine Chemical Department and the 3rd Organic Products Section of the 2nd Organic Production at Takaoka Plant. The survey included a review of past accidents, a plant site survey and interview with the relevant managers for the current practice of health and safety management.

The following survey activities were conducted at the designated two work-shops on February 6 and 7, 2014: observation of a tool box meeting, observation of work site, interviews with relevant personnel and document reviews.

General

- Occupational health and safety management at both shops are well maintained due to the continued effort made by managers who are responsible for production. Although no serious injuries have occurred in recent years, several accidents did occur. Our recommendations were provided with an aim to further upgrade the occupational health and safety level of the plant. We believe that extending the regular survey program to other plants and R&D facilities will be beneficial for enhancing the occupational health and safety level.

Continuous review of the safety platform

- It is expected that more efforts will be made to foster a corporate culture where employees are willing to make assessments and take action on their own initiative.

Safety program for ageing workers

- It is expected that ageing workers will receive greater recognition at worksites as being "specialists in possession of techniques that should be handed down to younger employees" and that they will be encouraged as part of their professional development to serve as models for mid-career and young employees.

Enhance managers' involvement in controlling site safety

- Mangers should be leaders in creating a safe environment at the job sites. It is encouraged that they should spend more time at the production site for this purpose.

Sincerely,

Hidehiro Sumi

Representative Director and President
Sompo Japan Nipponkoa Risk Management Inc.

NIPPON SODA CO.,LTD.

For inquiries about this report, please contact the following department:

Corporate Social Responsibility Dept., Nippon Soda Co., Ltd.

Shin Ohtemachi Bldg., 2-2-1 Ohtemachi, Chiyoda-ku, Tokyo 100-8165
Tel. +81-3-3245-6237 Fax. +81-3-3245-6027

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