

# CSR Report 2015

Aiming at sustainable  
growth in harmony with  
environment, safety and health



# Fusion of knowledge



The Nissan Chemical Group contributes to realization of sustainable society through our business activities.

The demand for new technologies and products increases, as the awareness on global environmental preservation rises. In response to the demand, we establish de-facto standard technology and create the most advanced materials that contribute to the sustainable development of society. Simultaneously, we offer affordable and fully functional products that respond to the needs of the global market.

Globally, population is growing and also rapidly aging. There are growing concerns over shortages of food and declining farmers in the domestic agricultural industry. Under this circumstance, we try to develop agrochemicals that will secure stable agricultural products' yields and lead to streamlining of agricultural work and saving labor. Furthermore, we develop pharmaceuticals that are required for healthier and wealthier lives of people.

As the changes of the times accelerate, various social issues are coming to light. By gathering our company's wisdom as well as integrating external knowledge into our work to solve the issues, we will keep on challenging the technological innovation.

## Editing principle of this Report

In 1992, our company started responsible care activities for securing the "environmental friendliness, safety, and health" throughout the lifecycle of each chemical. Their contents have been announced as "the environmental and safety report" since 1999. In 2013, this report was renewed, and has been issued as a "CSR report."

This report is aimed at reporting the policies and measures of our company and group companies about CSR to stakeholders. With reference to the "guidelines for environmental reports" of the Ministry of the Environment, its contents follow ISO26000, which is the international standard regarding the social responsibility of an organization.

The 2015 issue features the concrete cases of CSR activities, and the activities of group companies have been added.

In order to keep contributing to the actualization of a sustainable society, we will enhance our CSR activities and enrich the contents of reporting, so that this report will become a useful tool for communicating with stakeholders.

### Reporting period

FY 2014 (April 2014 to March 2015)

\*The Occupational Accidents data (P15) are from January to December 2014.

### Report coverage

This Report mainly covers the environment and safety activities as part of the corporate activities of Nissan Chemical Industries, Ltd.

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## We hereby release the CSR Report 2015.

The business activities of our corporate group are based on the corporate ethos of “contributing to society while maintaining harmony with the environment, based on excellent technologies, products, and services.” Considering that putting this ethos into practice is our CSR activity, we established a CSR promotion council for enhancing this activity, and it checks the contents of CSR activities, design action plans, and so on.

We promote responsible care activities while considering that our primary mission is to secure environmental friendliness, safety, and health throughout the lifecycle of each product, from development to disposal. We deal with and improve unveiled problems or potential risks, by specifying a basic policy, setting and pursuing goals in the fields of “environmental conservation,” “security and disaster prevention,” “occupational safety and health,” “chemical and product safety,” and “compliance,” and making each section in charge audit their contents.

For the interaction with local communities, all of our factories voluntarily guide visitors in the factories, to deepen communities’ understanding and win their trust in our activities for environmental conservation, security, and disaster prevention. Especially, Toyama Factory established a biotope space in adjacent idle land, so that neighbors can relax and learn the importance of biodiversity. Our research institute allows children, who will lead the next generation, to experience our jobs and give them lectures, to provide them with opportunities to realize the toil and pleasure in work, and how interesting science is.

For employees, we concentrate on the improvement of their working environment, by developing systems for work-life balance, enriching mental health measures, and enabling a broad range of personnel to exert their individual abilities to the maximum degree, so that they can lead healthier, more affluent lives.

On the other hand, we are strengthening our corporate governance for making our business administration sound and efficient. We are improving our abilities to design and implement managerial strategies by adopting the executive officer system; are streamlining the managerial decision making process and clarifying managerial responsibilities by reducing the number of directors and shortening their tenures; and are strengthening the overseeing function of the board of directors and securing the soundness and transparency of our business administration, by selecting two independent external directors.

Since fiscal 2015 is the last year in the 3-year midterm business plan “Vista 2015 Stage II” of our corporate group, we aim to achieve target profit by joining hands with one another, and are designing the next business plan to be started in April 2016. With this plan, we will improve our corporate value and contribute to the sustainable growth of society, with the corporate vision of our corporate group: “corporation that contributes to human survival and development.”

We will keep proactively fulfilling our corporate responsibilities for complying with law, caring for the environment further, solving social issues, etc. and live up to the expectations of stakeholders.

NISSAN CHEMICAL INDUSTRIES, LTD.  
President

Kojiro Kinoshita



## Corporate Ethos Structure

We contribute to the society in harmony with the environment, based on our excellent technologies, products and services.



### Basic policies

As a corporate group that grows with customers, we refine our brand power in a good-faith corporate culture and aim to improve our corporate value through socially meaningful business activities.

### Guidelines for action

- (1) We observe the laws in Japan and overseas, and conduct good business activities as a member of the international community.
- (2) We appropriately disclose corporate information and secure the transparency of business administration.
- (3) We voluntarily and proactively engage in activities to protect the environment and secure safety.
- (4) We deal with requests from all stakeholders in a sincere manner.
- (5) We foster a cheerful and friendly working environment.
- (6) We nurture the spirit of challenge with strong ambition.
- (7) We cherish an attitude as a good corporate citizen and a working person.

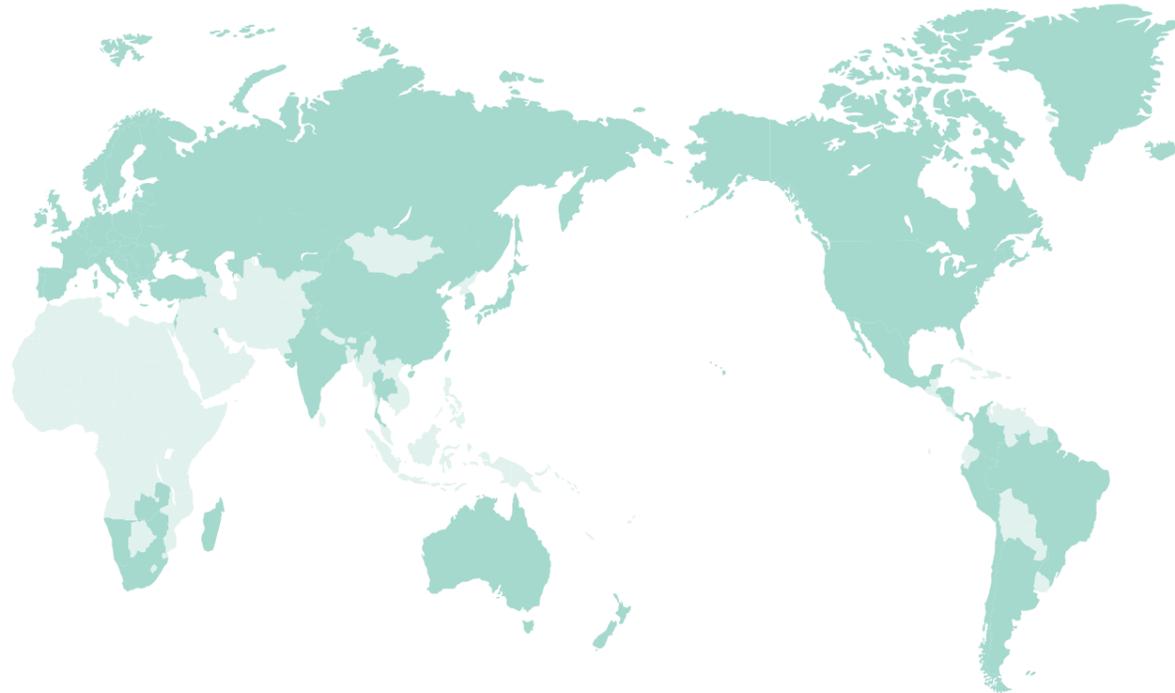
## For Healthy Pets

We invented Fluralaner, the active ingredient of MSD Animal Health's Bravecto® veterinary pharmaceutical product. MSD Animal Health is a Merck & Co., Inc.'s global animal health business division.

Bravecto® is a veterinary pharmaceutical product developed by MSD, with rapid effectiveness in eliminating ticks and fleas in dogs, and unlike existing products that usually require monthly doses its effects

last for three months. Sales already began in the EU in April 2014 and in the USA in June 2014, and it is now used in over 50 countries worldwide.

■ Countries Where Bravecto® Is Sold ( )



In Japan, MSD's subsidiary Intervet K.K. (IVKK) received permission to sell in May 2015, and began sales in July. Tick and flea treatment in the Japanese animal medicine is an area that is growing every year, with a market of around 6 billion JPY. When dogs are infested by ticks, in addition to causing skin inflammation, anemia, and malnutrition, in recent years there have been reports of human deaths from SFTS (severe fever with thrombocytopenia syndrome) which is carried by ticks, making effective elimination of ticks important.

Bravecto® is 1) a tasty tablet that can 2) deal with both ticks and fleas for 3) up to 3 months, eliminating the need for monthly administrations by owners. We, together with IVKK, are contributing to improving the health of dogs, which are family members, and further strengthening their bonds with owners through the sales of this tablet.



Bravecto® is a registered trademark of Intervet International B.V.

## Global Expansion

We currently runs its business globally, with approximately 140 staff (26 residing abroad) working in six countries and areas. Below is an introduction of three companies and their ambitions by employees working locally for them.



NCA Pasadena Plant  
Quality Assurance Manager  
Rebecca Vanderslice

NCA was established in New York in 1989, and in 1996 Nissan Chemical's first overseas plant was establish in Texas. The head office then moved to Houston, and currently is mainly involved in production, sales and development of inorganic colloid products. Products are also exported outside of North America, to Europe and Asia, and in recent years have focused on expanding sales of high-performance silica sols and developing new products for the shale industry, with the aim of further expanding the business results.

I am currently a quality assurance manager, with my mission being to ensure that laws and regulations related to quality, the environment, safety and health are followed. To that end I am continually improving management systems and procedures. I also work on ensuring GHS international standards for harmful and dangerous chemicals are followed. I believe that production that both follows laws and regulations and improves customer satisfaction will help the company to grow. I also believe that good relations with colleagues in factories and laboratories in Japan will become more and more important for the Group's global expansion.



NCK Co., Inc.  
Plant Chief  
Lee Jeong Min

NCK was established in April 2001 in Pyeongtaek, Gyeonggi in South Korea, and in 2003 began manufacturing antireflective films for semiconductors and liquid crystal alignment films. Shipping not only to South Korean companies that lead the semiconductor and display market, but also to China, Taiwan, and the USA, NCK functions as an important performance materials global base for the Nissan Chemical Group.

This plant not only implements the ISO9001 and ISO14001 quality and environmental management systems, it is also making efforts to ensure compliance and fulfill social responsibility as a member of the Nissan Chemical Group, as environmental safety, labor, accounting and outsourcing laws are all being strengthened worldwide.

I joined in 2001 as manufacturing management staff, and in 2006 became plant chief, where I manage all operations in the plant.

As a company that provides advanced electronics materials, NCK ensures thorough compliance while working to be a company that contributes to development around the world, trusted by clients and society. I believe this is the duty of all NCK employees, including myself.



Nissan Chemical Taiwan  
General Director  
Tadao Miyamoto

In 2000, a local office was established in Taipei, and in order to further expand business operations Nissan Chemical Taiwan Co., Ltd. was established in October 2010 inside the Kaohsiung Science Park of the Southern Taiwan Science Park. Business operations include sales support and research and development of electronics materials, and related businesses.

I joined the company in 1992, and after working as a researcher and in sales within Japan, in 2003 I was placed in Shanghai. After returning in 2013, I was transferred here in August 2013. Currently, I act as the general director locally, handling business operations in general.

While working in Shanghai and Taiwan, I have felt that "Resident employees have the opportunity to work on site overseas, so they must work according to the local methods." Since they use the same language in China and Taiwan, I thought there would not be a major difference when I transferred to Taiwan, but that was a big mistake. I plan to continue to study the local language and use it as much as possible, mixing in Japanese viewpoints while working, and trying to contribute to the globalization of the company as a whole.

## Protect Biodiversity ~Nissan Biopark Nishi-hongo~

Nissan Biopark Nishi-hongo, with the goal of "Creating a space with waterside and SATOYAMA forest biodiversity, as an area for plant employees and locals to relax," has had great success from cooperation between the Biopark Support Team, created by former employees of the Company, and the neighboring Hanabatake Management Group.

### Future of the Biopark

Currently, the biopark is in its second stage, and concentrates on two activities. One is expanding the SATOYAMA forest, with trees seen in SATOYAMA planted in the southwest of the biopark this year. The other is developing a space to entice creatures that live in SATOYAMA, such as fireflies. The Hotaru Koi Project involves transplanting freshwater snails that fireflies use as prey, in order to bring fireflies to the streams of the biopark. In 2014, Heike fireflies were spotted, and they have also been gently glowing this year. Now the plan is to also encourage Genji fireflies to come.



In addition to fireflies, dragonflies and birds are also seen more frequently, as a biodiverse space is made near the waterside. Creating an environment for beetles and butterflies, representatives of SATOYAMA, is the current plan.

### Tulip

The expansive flower field to the north of the biopark has 13,000 tulip bulbs as the star this year, with approximately 12,000 m<sup>2</sup>. Five types were planted in November 2014 with cooperation from locals. After the winter, in late April 2015, in cooperation with local preschools and elementary schools there were events to see and pick the tulips which had blossomed (in order to fatten the bulbs). At the end of May, even more preschools and elementary schools helped to dig up the bulbs, and everyone brought home bulbs separated by color, which had tripled in number since being planted. With comments about filling the field with tulips, these activities will likely become even more active.



### Responsible Care Award Grand Prix Ceremony

In fiscal 2013, the biopark received the grand prix of the Responsible Care (RC) Awards held by the Japan Chemical Industry Association. These awards were newly established in 2013, and the biopark is the first recipient of the grand prix. At the time of screening, they highly evaluated the biopark's activities for providing neighboring residents with recreation areas while offering opportunities to learn biodiversity, based on the collaboration between community and the company. On Monday, November 9, 2014, local residents were also invited to the RC Award Grand Prix Ceremony at Nissan Biopark Nishi-Hongo. This ceremony was celebrating the receipt of the RC grand prix on May 16 of the same year, in recognition of the Toyama plant's efforts in creating and maintaining Nissan Biopark Nishi-hongo. After the speech by the plant chief at the beginning, there were congratulations from the chairpersons of the local Hongo Koizumi Region Promotion Association and the Usaka Furusato Development Promotion Association. At the memorial tree planting afterwards, four representatives of the Company and local area planted a Japanese yew. It is hoped that this tree will grow into a symbol of the biopark, warmly watching those who gather in this place.



### Conclusion

The Toyama plant will continue to engage in communication with local residents through a variety of events, and actively work on environmental conservation initiatives such as Nissan Biopark Nishi-hongo. We hope this biopark will be an oasis for plant workers and local residents.

## Compass-2030

For 1 year from September 2013, we held the project titled "Compass-2030," in which young employees envisaged our corporate group in 2030 and proposed strategies to the management.

Eight employees within 10 years of employment voluntarily applied and were selected as the members of the project. The project was named by the members, with the hope of serving as "a compass" for indicating the appropriate directions of our company.

In "Compass-2030," meetings were held regularly, to discuss the roles of chemical manufacturers for advancing society and solving social issues while assuming some changes in the world and Japan. Next, they pondered over what would drive our company to grow and what kinds of business fields would allow us to grow, and set the vision of our corporate group for 2030. Then, they designed strategies and tactics for filling the gap between the ideal and current states, and proposed them to the management. In response, the research section examined the marketability of proposed new materials, and reflected them in new research themes.



A round-table talk was held inviting the members, and we listened to their comments about the project.

I became able to think about the growth of the entire company, not only our section.

By considering not only tasks at hand, but also future things, I was able to grasp many things.

We were able to share the cutting-edge technologies and information owned by individual sections.

I found new potentials that can be realized by putting together organizational power.

Teamwork is essential for a competent enterprise.

I got reliable peers who have goals, the senses of crisis and responsibility.

It is important to develop an environment where ambitious people can challenge.

I deeply realized that we are to be responsible for the future of our company and the advance of our society.

Our company has systems for developing independent personnel who can voluntarily think and take action. We think that new values will be created when individuals hone their abilities, cooperate with one another beyond the borders of sections, and exert synergies. Like this project, we make efforts to develop personnel who will lead the future of our corporate group, by providing young generations with the opportunities to assume social changes, overview the entire company, have inter-departmental discussions, accumulate knowledge and experience, and think about business administration.

Special Feature

CSR Management

Responsible Care Activities

Together with our Stakeholders

Corporate Overview

## Promotion of CSR

In order to strengthen our CSR activities, we established the CSR Promotion Council. The Secretariat of the Council is in the Corporate Planning Department. The council confirms what activities are being performed, creates action plans, and reports to the management.

### CSR Promotion System



### Basic Policies

The Company defines the stakeholders as "customers, shareholders/investors, employees, communities/society, and business partners" and decided the following basic policies in order to respond to the expectations of all stakeholders and strengthen their confidence in us.

1. To strengthen corporate governance and secure stability, soundness and transparency of management.
2. To further focus on appropriate chemical substance management and reduction in environmental load and try to protect global environment.
3. To place value on the communication with all stakeholders and disclose information appropriately.



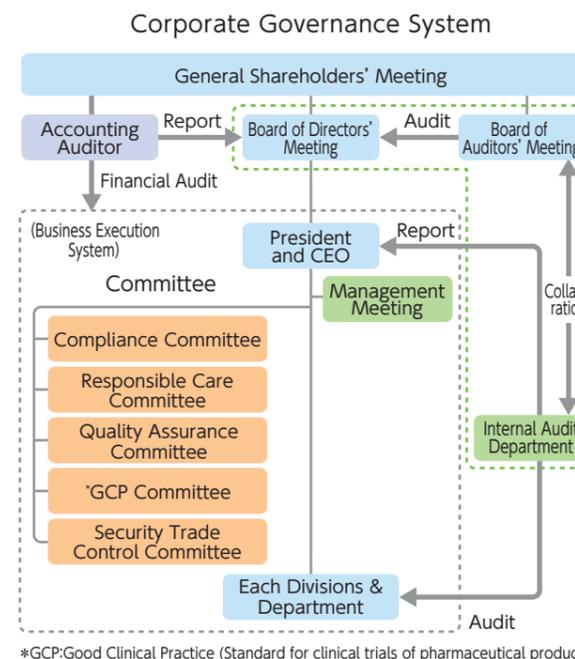
## Corporate Governance

The Company understands corporate governance as "the system for sound and efficient management to achieve sustainable and long-term profit for our stakeholders." In order to achieve it, we are working on the acceleration of management decision-making, clarification of management and executive operation

responsibilities and strengthening the auditing function of the management, compliance system, risk management and internal control system.

By having directors and executive officers have one-year terms, the responsibility for management and business operations is made clear.

## Corporate Governance System



- **Board of Directors' Meeting**  
The Company's board of directors is composed of 8 (including 2 outside directors) directors, and as a rule meetings are held once a month. In addition to making important decisions regarding management, by setting the terms for directors and executive officers as one year, the responsibility for management and business operations is made clear.
- **Internal Audit**  
The Company has the Internal Audit Unit, and based on the Internal Auditing Regulations, fair and independent internal audit is carried out. The business activities are checked by the Departments of Accounting, Legal Matters, Intellectual Property, and Environment, Safety, and Quality Assurance from the experts point of view.
- **Audit by Corporate Auditors**  
The Company's board of auditors is composed of 4 (including 3 outside auditors) members, and auditors ensure appropriate cooperation from stakeholders and carry out auditing plans decided by the board of auditors, auditing not only the board of directors, but also attending other important meetings and auditing other executive actions.

## Compliance

The Company Group values the management that stresses compliance, because we believe that complying with law, regulations and social norms are the conditions for survival and development of a corporation. Therefore, we created compliance guidelines and vigorously promote compliance throughout our group companies.

In addition, we have the "Compliance Committee" in place as an organization that maintains and improves compliance. The chairperson of the Committee is the Company's president and the members include experts from outside of the Company.

### Compliance Promotion System



The Compliance Committee creates manuals, revises guidelines, and makes decisions on compliance training, as well as receiving reports from each department chief, section chief, related committees, and subsidiary presidents, periodically auditing the state of compliance, and providing recommendations for improvements when necessary. The secretariat also holds seminars on

various legal guidelines, ensuring thorough education on obeying laws.

A "Consultation Hotline" was also made for making internal reports on employees of the Group, to receive reports and consultations about compliance. There was one report received in fiscal 2014, but it was not a major legal infraction.

## Consultation Hotline

This is a system for reporting directly to the Compliance Committee, and it is possible to report to an outside lawyer anonymously.

If non-compliance or possibility of non-compliance is detected, in principle, it should be handled based on the standard work procedure, including reporting to supervisor. However, if prompt and effective handling is difficult, the hotline system can be used to prevent non-compliance or to solve issues at an early stage. The reporting can be anonymous. Even if the reporter's name is specified, he/she will not receive any disadvantages by using this system.

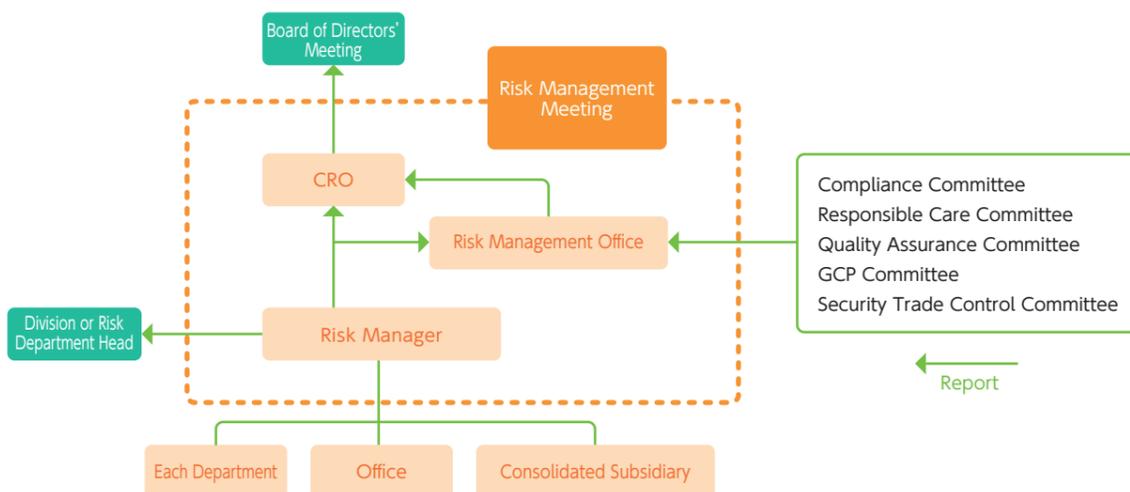
	2010	2011	2012	2013	2014
Consultation Hotline Reports (Number)	0	0	0	2	1

## Risk Management

The Company has established risk management guidelines with basic rules on risk management, in order to prevent the occurrence of various risks facing the Group, and minimize the damage and impact of those risks that should occur.

In collaboration with the various Committees including Compliance Committee, they extract and evaluate risks of non-compliance of their workplace, check the implementation status of countermeasures against the risks, strengthen risk and emergency responses systems, and develop Business Continuity Plan (BCP).

### Risk Management System



Under direction of the CRO (Chief Risk Management Officer) nominated by the Board of Directors, a Risk Management Office has been established, and Risk Managers have been placed in each section, office, and consolidated subsidiary.

We also carry out risk management meeting that is

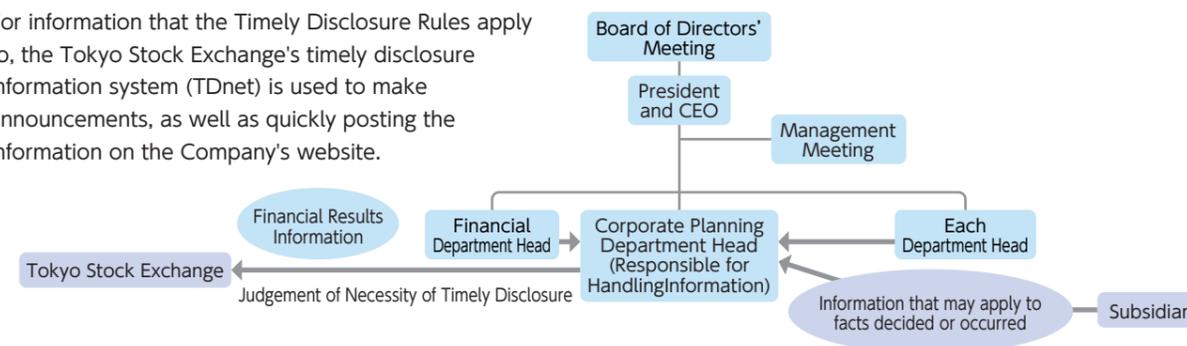
composed of CRO, Risk Managers, and the Risk Management Office. At the meeting, information concerning risk management of the entire corporate group is shared through annual plan of risk management activities, annual review and activity report from each department.

## Information Disclosure

The Company carries out disclosure according to the Timely Disclosure Rules of the Tokyo Stock Exchange, which the Company is listed on. Information at company information session and other announcements that the Timely Disclosure Rules do not apply to are also actively carried out as fairly as possible in order to meet the requests of investors.

### Information Disclosure System

For information that the Timely Disclosure Rules apply to, the Tokyo Stock Exchange's timely disclosure information system (TDnet) is used to make announcements, as well as quickly posting the information on the Company's website.



### IR Briefing Meeting



Once every six-month period, a financial results briefing is held for institutional investors, analysts, and the media. The briefing is attended by those responsible for various business departments and the IR executive, to directly explain the business situation to those in attendance.

Facility tours are also frequently held for corporate investors and analysts. During fiscal 2014, there was a tour in August of the Biological Science Laboratory that forms the core of life sciences research, a tour in September of the Toyama plant that manufactures chemical products and performance materials, a tour in October of the Onoda plant that is the center of agricultural chemical and pharmaceutical manufacturing, and in March there was a tour of the Materials Science Laboratory that researches performance materials. By seeing these locations with their own eyes, it provides participants with a deeper understanding of the Company's manufacturing and research. Additionally, every year the IR executive carries out a road show visiting overseas investors, and also participates in domestic and international conferences held by securities firms. In fiscal 2014, they visited Europe, the USA, and Asia, and the Company was well regarded for its overseas IR efforts.

The Company aims to provide more rapid and fair information disclosure for both domestic and international investors, by releasing news releases, financial results information, and briefing materials in both Japanese and English as a rule.

In order to update the website and provide more IR information, the IR information page had a new "Who are we?" section added. This section has easy to understand explanations of the company's unique characteristics such as financial data, products, and shareholder returns policy, in the hopes of being more appealing to individual investors.

### Discussions with Analysts

In addition to rapid, clear, and fair disclosure of information, we also value discussions with institutional investors and analysts. IR interviews allow detailed explanations of projects that are not clear in text disclosure, and the opinions from these interviews are then fed back into business management.

Since this department directly accepts evaluations of the Company's businesses, products, and future potential, we always face reporters seriously. Sometimes the opinions we hear are rather severe, but we share this information with relevant sections as a valuable voice from the market. We are also sure to accurately and simply explain product sales, competition, research progress and development of new products during these discussions.



Financial Department IR Manager Ayumi Nakamuta (photo, left)

## Promotion of the Responsible Care Activities

We make efforts to continuously improve "Environment, Safety and Health" throughout the life cycle of our products from development to disposal.

### Responsible Care Activities and International Cooperation

Responsible Care is a global initiative to protect the environment, safety, and health (ESH) carried out voluntarily and autonomously by chemical corporations in 58 countries and regions, covering the whole life cycle of chemicals from their development to manufacture, shipping, use, and even disposal and recycling after final consumption. The Company has been a member of the Japan Chemical

Industry Association's Responsible Care Committee since its founding, and has signed the revised Responsible Care Global Charter, indicating its intention to cooperate internationally in Responsible Care activities.



### Basic Principles concerning Responsible Care

- (1) To continuously improve the environment, safety and health performance over the entire lifecycle from development to disposal waste of our products.
- (2) To manage our business activities so as to prevent adverse impact on people and environment as well as to take into account the environment, health and safety during transporting, storing and disposing our products.
- (3) To examine the environment, health and safety aspects from the research and development stage, and to develop products and technologies with lower impact on the environment, health and safety.
- (4) To promote conservation of resource and energy, to minimize waste emissions and to recycle waste effectively.
- (5) To address the concerns of government officials and public regarding the influence of our products and operations on the environment, health and safety, while disclosing relevant information and participating in dialogue to promote proper understanding of the issues.
- (6) To ensure risk characterization and risk management based on sound scientific information in order to reinforce product stewardship.
- (7) To comply laws, regulations and standards, and to promote and meet voluntary initiatives for improving the environment, health and safety.
- (8) To ensure accountability in order to address the expectations of domestic and worldwide stakeholders for the promotion of the environment, health and safety.

### Promotion of Nissan Chemical's Mid-term Responsible Care Goals (FY 2013-2015)

Nissan Chemical has set mid-term goals for Responsible Care activities in the fields of environmental protection, process safety and disaster prevention, occupational safety and health, chemical and product safety, and compliance.

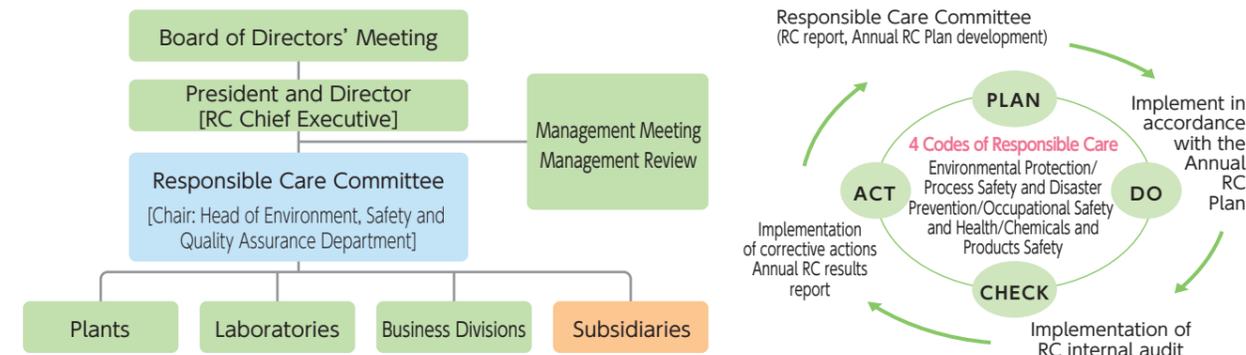
Field	Mid-term Goals (FY 2013—2015)
Environmental Protection	<ul style="list-style-type: none"> <li>● Energy consumption amount, improve rate by reducing 1% YOY each year</li> <li>● PRTR materials, hazardous materials amounts continually reduced</li> </ul>
Process Safety and Disaster Prevention	<ul style="list-style-type: none"> <li>● Ensure safety, continue safe operations</li> <li>● Eliminate major plant waste water and gas accidents</li> <li>● Safety culture evaluation to improve process safety</li> <li>● Continue zero environmental accidents</li> </ul>
Occupational Safety and Health	<ul style="list-style-type: none"> <li>● Achieve zero accidents that lead to lost worktime</li> <li>● Continue zero work accidents caused by breaking rules</li> </ul>
Chemicals and Products Safety	<ul style="list-style-type: none"> <li>● Upload GPS/JIPS safety briefing</li> <li>● Respond to chemical product management regulations without delay</li> </ul>
Compliance	<ul style="list-style-type: none"> <li>● Acquire and share information on legal regulations related to ESH</li> <li>● Maintain compliance and promotion of understanding ESH laws</li> </ul>

## Nissan Chemical Responsible Care Management System

To achieve the mid-term goals, a management system has been built with PDCA used to manage goals, and it is continually improved. In order for all plants, laboratories, business divisions and subsidiaries to achieve Responsible Care Mid-term Goals, each office has set mid-term and annual goals for their Responsible Care activities. The Responsible Care Committee has been established to promote these activities. The Chair of the committee is the Head of the Environment, Safety and Quality Assurance Department, and committee members include the Environment, Safety and Quality Assurance officer, Production Technology Department, Human Resources

Department Head, Acquisitions Department Head, all business department heads, and all office heads. The committee meets once a year, with reports on activities over the year at each office, activities carried out by the company as a whole, and decisions on the Responsible Care goals for the next year. The results are reported to the Management Meeting, and after a management review the next years' Responsible Care goals are established.

All the Company's plants acquired ISO14001 (EMS), an international standard for environment management system, and they have been maintaining and updating the certificate through the certifying body since then.



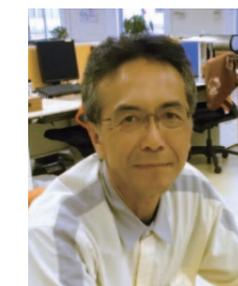
### Responsible Care Auditing

Responsible Care auditing involves actually checking if the PDCA cycle is properly cycling and Responsible Care activities are being carried out at each office in an appropriate manner. If there are any problems that have occurred or potentially may occur in the areas of environment, safety or health, then they are clearly indicated and improvements promoted.

Auditing is carried out by the Environment, Safety and Quality Assurance Department, and in fiscal 2014 auditing was carried out 36 times, at 5 plants, 5 laboratories, 6 subsidiaries (10 offices), and 2 overseas subsidiaries.

### Message

Responsible Care was first developed in Canada in 1985, thirty years ago as of this year. The Japan Responsible Care Committee was established within the Japan Chemical Industry Association in 1995, with Nissan Chemical joining the same year, so the Company has been carrying out Responsible Care for the past 20 years. Currently, the term "RC" has become firmly established within the company, and the PDCA is functioning smoothly, with continual improvements made for each code. However, the term "RC" is only known in the chemical industry, and societal awareness of it is still limited. One important goal of RC is "communication with society." This pamphlet used to be the Environmental and Safety Report, but in order to have society learn more about the Company's contributions it was reborn as the CSR Report two years ago. We hope that this pamphlet will be widely read, so people may learn of the Company's RC activities and contributions to society.



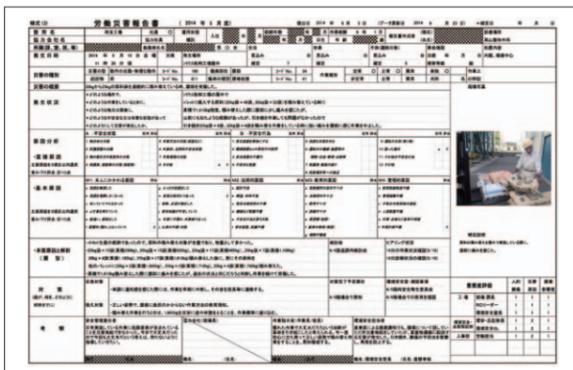
Onoda Plant Environment and Safety Section Hidefumi Toyohara

## Occupational Safety and Health

Within the Responsible Care management system that includes all plants, laboratories, business divisions, subsidiaries and group companies within its scope, it is continually improved by PDCA, in order to prevent work accidents, promote worker health, and build a comfortable work environment in order to improve the safety and health level of each workplace.

At workplaces where accidents occur, a thorough investigation into the cause is carried out, with emergency and long-term countermeasures put into place and reports made to the Environment, Safety and Quality Assurance Department and Human Resources Departments as below. The Environment, Safety and Quality Assurance Department sends this report to all workplaces after protecting the personal information of the accident victim, in order to prevent any similar accidents from occurring.

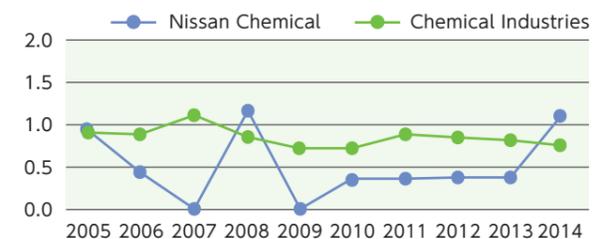
### Example Work Accident Report



## Safety Results

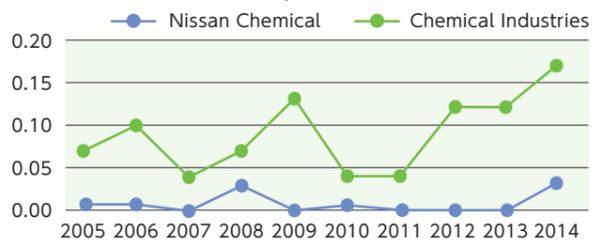
In fiscal 2014, at Nissan Chemical 3 lost-work-time accidents and 7 non-lost-work-time accidents occurred. This is 2 more lost-work-time accidents than the previous year. This unfortunate result meant the accident rate and severity rate both worsened. Both accidents were caused due to insufficient risk assessment of hazards in the work process. Further safety activities will be carried out with the goal of zero accidents, by ensuring thorough risk assessment and KY (kiken yochi [hazard prediction]) before carrying out work processes.

### Lost-work time accidents rates [%]



Lost-work time accidents rates = (Number of people affected by disasters that require time off from work) ÷ (total working hours) × 1,000,000

### Lost-work time severity rates [%]



Lost-work time severity rates = (Lost days) ÷ (total working hours) × 1,000

## Process Safety and Disaster Prevention

In fiscal 2014, with the goal of ensuring safety, achieving safe operations, and improving disaster prevention, thorough manufacturing preliminary evaluations, process KY, and facility KY resulted in no fires, explosions, or leakages. In order to continue having no major accidents, since fiscal 2014 safety culture evaluations have been carried out in plants, and in fiscal 2015 the initiative started in earnest to cultivate safety culture in all plants.

Also, at each plant, laboratory and subsidiary, general disaster prevention training, earthquake training, first-response fire fighting, and emergency reporting training are carried out each year with the location and terrain of each office considered, to be prepared to respond properly to an emergency or accident.



General Disaster Prevention Training for Petrochemical Complexes

## Product Life Cycle Risk Evaluation

In order to reduce Responsible Care risks related to business activities, preliminary evaluations are carried out primarily by laboratories or plants at the stages of research and development, industrialization tests, and manufacturing.

These evaluations are carried out not just for new products being released on the market, but for changing processes of existing products, or changing packaging or containers, in order to improve ESH.

Main Categories for Evaluation	
1. Meeting laws, regulations, agreements	6. Logistics safety and stability
2. Chemical material safety, impact on environment	7. Reduction of disposal amount
3. Occupational safety and health for workers	8. Quality assurance
4. Safety of facilities and for operations	9. Environmental and safety aspects for commissioning, purchasing, and sales
5. Product safety and environmental burden	

### Preliminary Evaluation Test Results

Stage	Department Responsible for Evaluation	2012	2013	2014
Research and Development	Laboratory	24	16	31
Industrialization Test	Plant (Technical)	8	14	2
Manufacturing	Plant (Manufacturing)	106	110	96

## Considerations for Animal Testing

For research and development of pharmaceuticals, agricultural chemicals, medical equipment and chemical materials that are valuable to society, various biological evaluations are necessary. In particular, it is difficult to perform this research without carrying out any tests on animals. At the Company's Biological Research Laboratory, following laws such as Act on Welfare and Management of Animals, the principles of the 3Rs (Replacement, Reduction, Refinement) are used as a base for a set of standards. The Animal Experiment Committee evaluates whether to perform experiments based on these standards, as well as rating how the tests were performed, in order to carry out animal testing with appropriate regard for the welfare of animals.



Main Laboratory Bldg. of Biological Research Laboratories

## Activities of the Japan Chemical Industry Association

### Responsible Care Committee Member Interaction WG

We actively engage in the interaction projects of member companies, as a member of the "Member Interaction Working Group (WG)" set in the Responsible Care Committee.

Concretely, this WG holds a meeting for exchanging information on the situations of each company's activities, a study session under the theme of Responsible Care issues, a screening meeting for Responsible Care Awards, etc. Among the WGs of the Responsible Care Committee, this WG is said to be the busiest. We will keep cooperating actively in the improvement of the activities in this field.

### Participation in LRI

The Long-Range Research Initiative (LRI) is an international initiative for long-term research into the effects of chemical materials on the human body and the environment, promoted by the Japan Chemical Industry Association.

In order to contribute to these research activities and spread information about environmental safety, the Company is a participant in the Research Strategy Promotion Task Force. This task force involves monitoring selected research themes along with the Japan Chemical Industry Association and participating corporate members in order to promote research and debate and plan future research strategy.

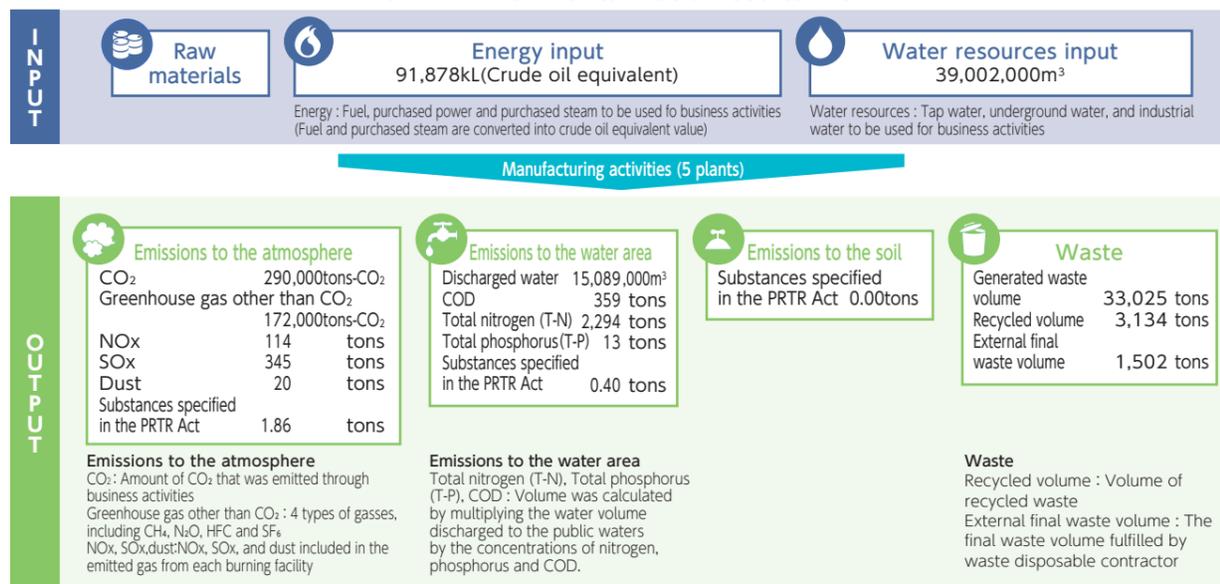
# Environmental Performance

We calculate the total inputs of energy and resources that are needed for our manufacturing activities and make efforts to understand their environmental load on the air and water.

## Environmental Load from Manufacturing Activities

The environmental burden flowchart shows the materials, energy, water inputted for manufacturing products, production, discharge to atmosphere and the aquatic environment, and the output of industrial wastes. The flowchart shows the entire picture of the environmental burdens produced by Nissan Chemical.

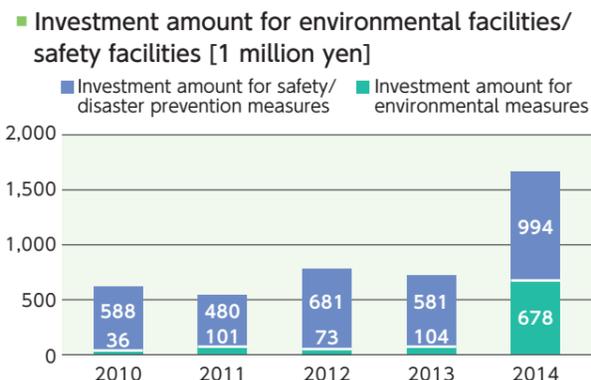
### 2014 Environmental Load Results Flow



## Investment in Facilities for Environment/Safety

As shown by cases in recent years, accidents at chemical plants bring tremendous damage to the neighboring areas. We not only conduct daily inspection but also carry out continuous and planned facility investment in order to secure safe and stable operation. We also continuously make investment for environmental consideration and environmental load reduction.

In fiscal 2014, as measures to deal with facility aging and waste water, significant investment was carried out in expanding the activated sludge facilities at the Onoda plant, in order to improve safety and reduce environmental burden.

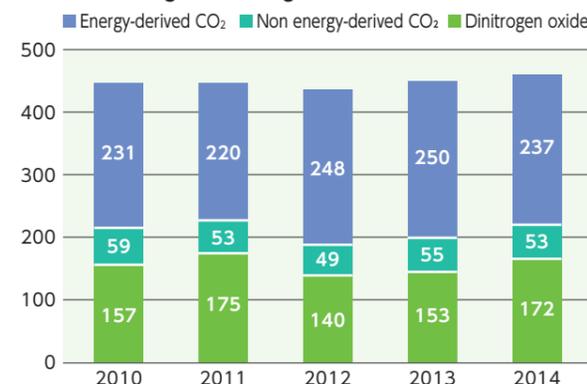


## Prevention of Global Warming

In accordance with the "Act on Promotion of Global Warming Countermeasures," we calculate the volume of CO<sub>2</sub> and other greenhouse gas emissions from all of our offices including plants, laboratories and the head office and submit our report to the government. The greenhouse gas emissions of fiscal 2014 had less CO<sub>2</sub> emissions than of the previous fiscal year, but increased emissions of dinitrous monoxide (nitrous oxide: N<sub>2</sub>O), for overall emissions almost equal to those of the previous fiscal year.

A unique characteristic of Nissan Chemical is that dinitrous monoxide accounts for nearly half of the greenhouse gases emitted. Dinitrous monoxide is also produced as a pharmaceutical product (laughing gas, ingested anesthetic), but the majority of the emissions is emitted from nitric acid plants. Since its global warming potential is 310 times that of CO<sub>2</sub>, it accounts for a large portion of the emissions ratio.

### Transition of greenhouse gas emissions [1,000 tons -CO<sub>2</sub>]



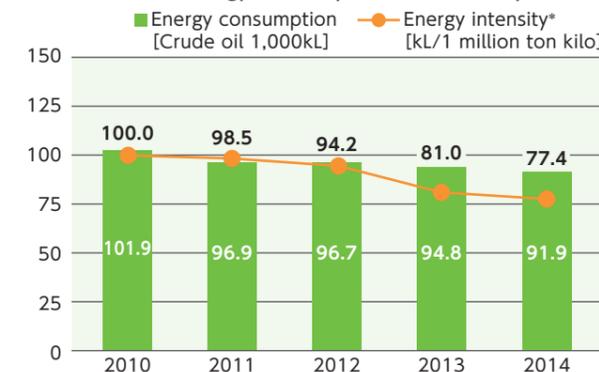
## Energy Consumption, Energy Intensity

In accordance with the "Act on the Rational Use of Energy," we consolidate the total energy consumptions of all locations and report them together with the energy consumption rates. In fiscal 2014, we managed to decrease the energy consumption by equivalent to approximately 2,900 kL in crude oil equivalent as compared to the previous year.

We have a wide range of product matrix from all-purpose chemical products, agrochemicals, pharmaceuticals, to functional products for electronics materials.

Since it is difficult to assess the energy consumption rate based on the simple production amount standard, we calculate it based on the sales (plants) and floor area (laboratories, offices). The energy consumption rate is improving every year, with fiscal 2014 achieving an improvement of approximately 5% over the previous year.

### Transition of energy consumption and intensity index

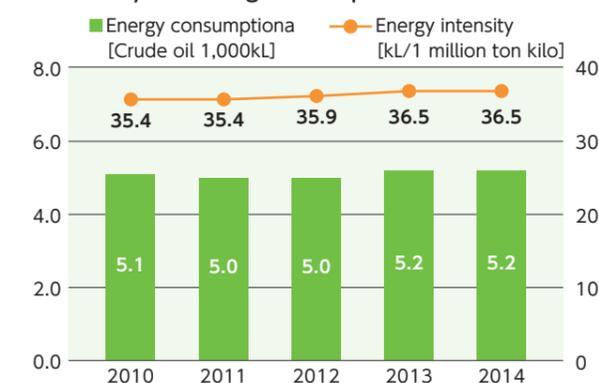


\*Because the figure that has close relationship with energy consumption amount differs depending on business category, the graph shows the relative changes, taking the level of energy consumption in FY 2010 as a base of 100.

## Our Actions for Saving Energy in the Logistics Site

As a consigner, Nissan Chemical is streamlining the use of energy for transportation together with Nissan Butsuryu, a subsidiary company. Our energy consumption in crude oil equivalent and energy consumption rate in FY 2014 were essentially the same as the previous year although we had many parcel transportation and transportation efficiency was not very good. We will continue making efforts to improve energy consumption rate by promoting modal shift, updating to energy-saving vehicles and promoting green driving.

### Transition of energy consumption and energy intensity in the logistics department



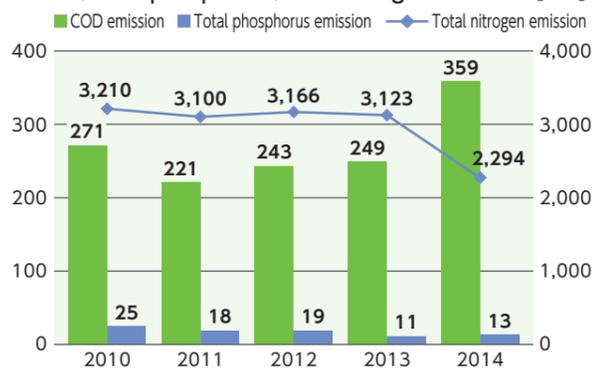
# Environmental Load Reduction

## Control of Waste Water

Each plant complies with the standards specified by the "Water Pollution Prevention Act" and the regulation levels that are determined based on agreements with the region. We also monitor the concentration level of chemical oxygen demand (COD), total nitrogen and total phosphorus in the waste water.

With the increase in production of flame retardant from new uses for it, COD emission levels are increasing. As a result of reduction measures, total nitrogen emissions were reduced by 27% compared to fiscal 2013. Reduction measures for COD emissions will be implemented.

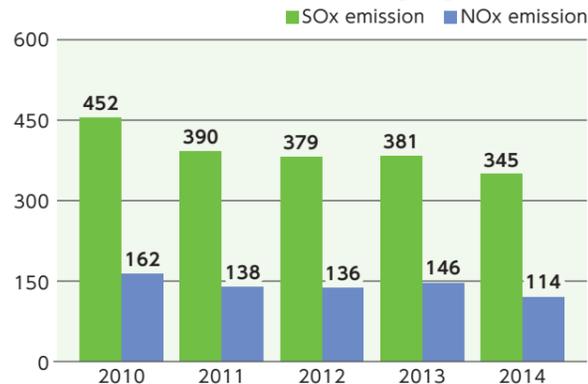
■ COD, total phosphorus, total nitrogen emission [ton]



## Control of Exhaust Gas

For exhaust gas, in addition to complying with the emission standards in the "Air Pollution Prevention Act," the regulation levels determined based on agreements with the region are also met. By maintaining desulfurization and denitritization equipment, efforts are made to reduce the emissions of air pollutants sulfur oxide (SOx) and nitrous oxide (NOx).

■ Transition of Sox, NOx emission [ton]



## Topics

### Onoda Plant Activated Sludge

In addition to complying with the standards specified by the "Water Pollution Prevention Act" and "Law Concerning Special Measures for Conservation of the Environment of the Seto Inland Sea," and the regulation levels that are determined based on agreements with the region, activated sludge is used to reduce COD and total nitrogen in plant waste water as part of efforts to ensure stable operation of the plant.

In 2014, with the goal of improving nitrification and denitrification capabilities, the first nitrification-denitrification using endogenous respiration process for the Company was introduced to the existing activated sludge facilities, with construction completed in March 2015. This enabled a

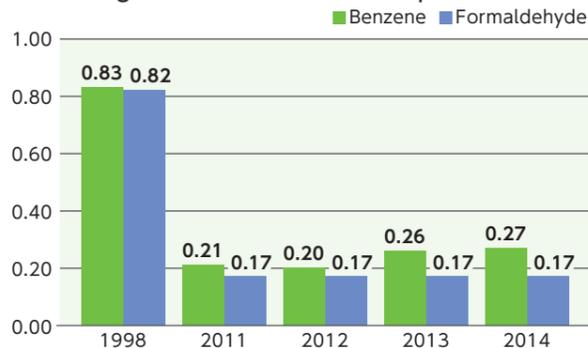


major reduction (approximately 80%) of the total nitrogen in the waste water, and it continues to function properly.

## Reducing Emissions of Volatile Organic Compounds (VOC)

Continued efforts are underway to reduce emissions of volatile organic compounds, which can lead to photochemical oxidants. With measures such as introducing volatile organic compound removal devices, since 2006 emissions of 1,2-dichloroethane into the atmosphere have been eliminated. The emissions of other volatile organic compounds (benzene, formaldehyde) have also been reduced to one quarter since fiscal 1998.

■ Reducing emission of hazardous air pollutants [ton]



## Reducing Emission of Substances Specified in the Pollutant Release and Transfer Register Act (PRTR)

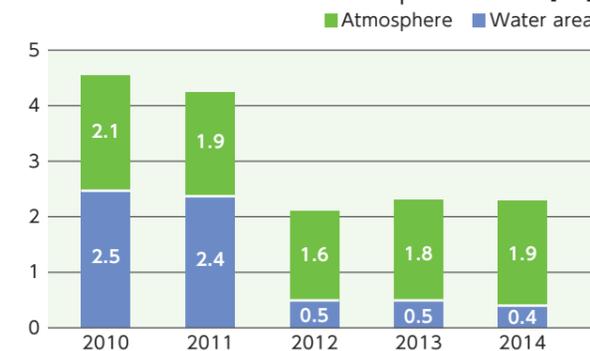
In fiscal 2014, we had 66 substances that are subject to notification under the "Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof." The major substances are formaldehyde and normal-hexane. The former is used as reaction solvent and the latter is derived from naphtha that we use as fuel or raw material. Currently, a plan is underway to switch materials from naphtha to natural gas, and in fiscal 2016 it is expected that normal-hexane emissions will be significantly reduced.

■ Reduction of emissions of substances specified in PRTR

Name of substance	Emission volume (ton)				
	2010	2011	2012	2013	2014
Formaldehyde	2.6	2.4	0.5	0.5	0.4
Normal-hexane	1.5	1.2	1.2	1.4	1.4
Others	0.5	0.7	0.3	0.4	0.5
Total	4.6	4.3	2.0	2.3	2.3

The total emission amount is 2.3 tones: 1.9 tons to the air and 0.4 tons to the water area. Although this is the same as the previous fiscal year (2.3 tons), we are continuously working on emission control. There is no emission to the soil.

■ Breakdown of emissions of substances specified in PRTR [ton]



## Topics

### Nagoya Plant Zero Emissions

Since fiscal 2008, major efforts were made to separate waste products and improve recycling rates. As a result of persistent surveys of industrial waste disposal contractors, it was confirmed that it was possible to recycle even waste that was considered difficult to recycle, and as of fiscal 2013 a 100% recycle rate was achieved. This has been maintained, and we will continue to make efforts to reduce environmental burden and protect the global environment.

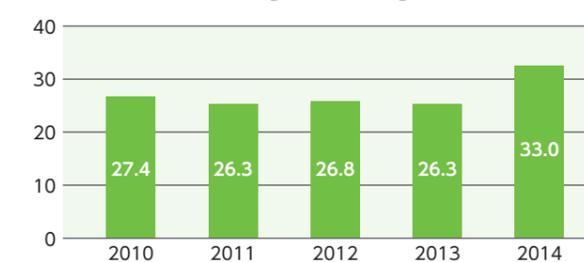


## Reduction of Disposal of Waste

We try to reduce discharge of industrial wastes and strictly implement the appropriate disposal of the wastes. When disposal is commissioned to external contractors, we observe the contractor on site and ensure disposal is being carried out properly, and use the industrial waste manifest to check and control the transfer amount and destination of the wastes, and monitor the process until the final disposal.

Most of our industrial waste is the waste water from the manufacturing process. Currently, the waste water is incinerated by the Company. For the solid wastes, we try to reduce the final disposal amount by recycling the generated sludge for base course materials and cement. Compared to the previous year, production increased for organic fine products and flame retardant due to new uses, so the generated volume increased.

■ Generated volume [1,000 tons]



■ Recycled volume/Final disposal volume [1,000 tons]



# Quality Assurance

## Quality Principle and Quality Objectives

The Company's quality principle is "to provide products and services to meet customers' satisfaction." By setting the quality objectives under this quality principle and implementing the annual schedule based on the PDCA cycle, we continuously improve our quality management

system and business operation every year. We will strengthen our responding capability to the diversifying and advancing market and further grown as a corporation that contributes to the society.

### Quality Principle

"To provide products and services to meet the customers' satisfaction"

### Quality Objectives (achieving the quality policy)

- Consistent quality assurance from product development to production and shipment
- Quality Management System improvement to respond to advancing needs of customers and laws and regulations
- Corrective and preventive actions of complaints and quality troubles



## Nissan Chemical Quality Management System(QMS)

The Company's quality assurance system is based on the ISO9001 in each plant and has been receiving high recognition from our customers for its excellent products and services within Japan and overseas.

We established the Quality Assurance Committee as an organization to promote quality assurance activities, with the Head of Environment, Safety and Quality Assurance Department as chairperson and committee members including the Environment, Safety and Quality Assurance officer, Production Technology Department, Acquisitions Department Head, all business department heads, and all office heads. The Committee holds regular

meetings once a year. At the Committee meetings, activity results, audit results and complaints information and their corrective actions' status of the year for the Company and affiliates are reported to the members, and the activity policies, etc. concerning quality assurance for the next fiscal year are discussed. The results are reported to the Management Meeting, and after a management review the quality objectives for the next fiscal year are determined. All plants have ISO9001 certification for quality management systems, and maintain and update their certification through the certifying body.

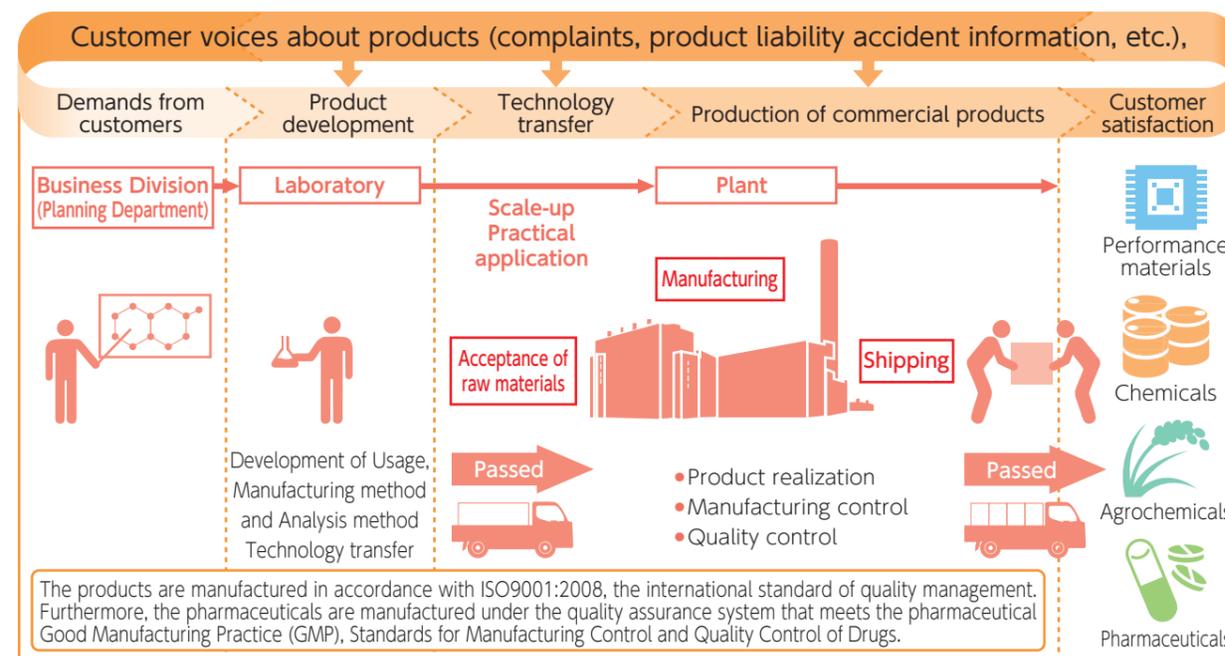


## Quality Assurance Activities

By applying quality management system such as ISO9001, we conduct quality assurance activities that respond to laws, regulations and demands from the customers throughout the product's life cycle from product development, commercialization, to the use by the customers.

In order to promptly collect voices of the customers concerning the products (complaints, product liability accident information, etc.), evaluate them, and take corrective actions if necessary, we also have an internal company network.

### Quality Assurance Activities at Each Stage



## Topics

### Response to FDA\* Inspections

To be registered in the USA for making bulk pharmaceuticals, in September 2014 the Company's Onoda plant underwent an overseas inspection by the FDA, with the impressive result of having no issues at all.

### Interview

Our motto for quality assurance activities is to achieve the greatest performance with the limited management resources available. Although there were no clear GMP infractions, our goal was to use resources to solve even minor issues that might be pointed out in the FDA inspection. Although there was no list in the preliminary inspection materials, we prepared for it based on our own predictions, and translated procedure manuals as much as we could. As a result, we had no issues mentioned, and gained confidence at this great result. I reaffirmed the importance of carrying out daily quality assurance activities to ensure that things occur as they should. This was all an asset to us, and everyone that experienced it further developed, which was the greatest benefit.

In order to continue to contribute to society through the pharmaceutical business, I am considering writing a text to pass on this experience. Instead of just being satisfied with these results, we will continually make improvements in order to meet the standards of all countries that might be applicable in the future.

Onoda Plant Quality Assurance Sections Naoki Fujikura



\*FDA : The USA's Food and Drug Administration, which carries out registration, screening and manufacturing facility inspections for pharmaceuticals used in the USA. Its inspections are said to be the strictest in the world.

# Relationships with Employees

## Views

In the Vista 2015 Stage II mid-term business plan, our mission is to "Enable sustainable growth of 'individuals' and 'the corporation' from the perspective of 'people'." As part of the "individuals" aspect, recently a study-abroad language program has been introduced for globalization, and strategic OJT programs have been

started to train employees. Various practices are also being maintained to create a comfortable workplace, and as of this year "line care training" was introduced for all management as a mental health measure. With these measures, we would like to aim for sustainable growth of "the corporation".

## Human Resource System

Our Company's human resource system is designed to support the employees so that they can enthusiastically carry out their work using their creativity, while feeling their growth to become the person that each "independent individual" wants to be, through communication between the employees and their supervisors. We try to make a fair HR assessment by making it more transparent, more persuasive, and more

results/contribution-oriented. Additionally, our company carries out evaluation feedback with the goals of 1) encouraging ambition to reach higher targets, 2) cultivating management desire to develop human resources, and 3) clarifying development goals by enabling individuals to learn their own strengths and weaknesses, which is carried out while including a long-term perspective.

## Human Resource Development

Our Company believes that the essence of human resource development is "for each employee to try to grow through voluntarily self-improvement." We offer

various human resource development opportunities for the employees who wish to "learn" and "grow."

### Professional staff, General staff

Name of training	Content
New employees self-start	To learn the importance of taking self-driven actions and make the training as the first step to form their own career.
Third year self-start	To learn the importance of inspiring themselves in order to keep on challenging with high motivation.
Before promotion to manager position	To enhance essential agenda setting/strategy setting abilities. To recognize the role and responsibilities as the leader for the next generation and develop action plans to achieve the vision.
Strengthening on-site capacity	To enhance communication capacity. To share issues on the site, discuss the solutions and capture opportunities to solve the issues.



Self-start training



Before promotion to manager position training

### Others

Name of training	Content
Foreign Language Study Abroad	With the goal of "developing and hiring human resources that can create new value and expand businesses globally," efforts are made to accelerate globalization by sending employees to study abroad at foreign language schools.
Evaluator	To learn about the evaluation, basics of HR evaluation, practice of capacity assessment, and capacity assessment communication.
Coaching skill	To acquire coaching skill called "Communication technology to promote voluntary action."
Work improvement	To try to clarify scope of work/role and enhance communication capacity and motivation control capacity.
Correspondence education	To provide support tools for individual employee to have his/her own vision, have career plan and move up step by step to achieve self-realization.
Strategic OJT	Aiming at "creating an organization that develop people and where people grow", supervisor and subordinates work on OJT facing each other in an effort to strengthen capacity to develop human resources and capacity to work.



Foreign Language Study Abroad Program: This Year's Students and Certificates of Completion



Coaching skill training

## Friendly Working Environment

Our Company has various systems/measures in place for our employees to achieve highly productive work performance and have good work and life balance.

In addition to maintaining a high usage rate of over 70% for annual leave, the majority of employees who finish maternity leave take advantage of childcare leave, with the various programs being used successfully.

### Systems, etc. for Work and Life Balance

Names of system	Content
Flexitime	Introduced in the head office and laboratories.
Childcare leave	If certain requirements are fulfilled, the employee can take childcare leave until the child becomes "one and half years old" or until the first April 20 after the child reaches one year old.
Spouse child birth/Childcare support leave	The male employee whose spouse gave birth is allowed to take up to 7 leave days (paid) within 8 weeks from the child's birth.
Nursing leave	The employee is allowed to take nursing leave to take care of his/her child (children) and spouse up to 20 days per year from the accumulated expired annual leave days.
Short working hours	The employee is allowed to make their designated working hours shorter, up to 2 hours, at the unit of 30 minutes, to take care of child (children) until they reach the 4th grade.
Half a day leave	The employee is allowed to take half a day off as annual leave up to 30 times a year.
Planned annual leave	The Company recommends the employees to take annual leave of 2 days as company-wide planned leave and 3 days as individually planned leave.
Banking Yearly Leave	Up to 40 days worth of yearly leave that is going to expire can be preserved, and used for reasons such as personal illness or injury or providing nursing care.
Refresh leave	Within 1 year from the time when an employee reaches 50 years old, the company provides 10 consecutive days leave (paid) with financial support.
Re-employment refresh leave	Within 1 month before or after an employee reaches 60 years old, the company provides 3 consecutive days leave (paid).

## Topics

### Mental Health Measure "Line Care Training"

Line care involves having those in management who work closely with people every day to "be aware of and improve workplace environment" and "deal with consultations from workers." At our Company, training was implemented to have all management personnel learn basic knowledge about mental health and consultation skills. During the training, roleplaying was done with hypothetical consultations, and those training experienced the importance and difficulty of trying to be aware of employee's health.



## Respect for Diverse Human Resources, Individuality and Views

At the Company, diverse human resources are playing active roles in wide range of fields, regardless of their age, gender and nationality.

The retention rate is also high, suggesting it is an environment in which each employee can contribute.

\*Relevant data available on page 30

## Award System

Every year, we provide awards to the employees for beneficial invention, improvement ideas, or outstanding performance and service that are beneficial for our business. Furthermore, from the intellectual property perspective, we try to increase incentives for research and development that would lead to new inventions and higher quality and creativity by providing rewards to the excellent patent-pending inventions.

Name	Award winner	Content
Central Award Business Division Award Site Award	President & CEO Head of Division Head of Site	Awards/rewards are given to the inventions, improvement ideas, or outstanding performance and services that are beneficial for our business.
Excellent invention award	Executive officer responsible for Intellectual Property Department	In order to facilitate improvement of research and development capacity, excellent inventions are early encouraged.



## Labor-management Relationship based on Straightforward Communication and Mutual Understanding

As good business partners, Nissan Chemical and Nissan Chemical Labor Union hold periodic meetings to report results and meetings to exchange opinions on labor conditions such as work-life balance policies, based on good labor-management relationships built in the past.



# Communication with the Society

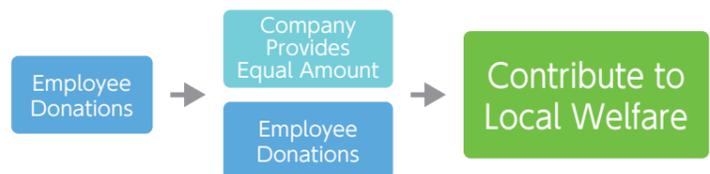
## Social Welfare Fund Raising

As part of local contribution activities, our Group has been conducting "Social Welfare Fund Raising" activities since 1997. The employees make a certain amount of contribution to the reserve funds from their salary every month, and the Company donates the matching amount.

These activities are carried out at the individual office level, at the head office, plants, or laboratories, or jointly between several. Depending on the area, they may visit the welfare facility and find out what goods they need, and then donate the required goods, as part of activities performed as community members.

In FY 2014, we donated to 31 organizations such as Council of Social Welfare and welfare facilities, in 16 regions.

Since starting in 1997, the total amount of monetary donations has exceeded 200 million yen.



## Local Community

### Onoda Plant Cherry Blossom Festival

At the Onoda plant, a cherry blossom festival is held in early April every year, with local residents invited. This festival was started as an opportunity for employees to interact with each other, but has now grown to include residents from the area around the plant and children from welfare facilities donated to, making it an opportunity for the whole community to interact.

The festival is held on top of the hill in front of the plant, with a height of approximately 20 meters, and it is also the evacuation site for employees in the case of a major earthquake. During a Tonankai earthquake, tsunami of up to 4 meters are anticipated, and a plan is in place to expand the site and the goods for disaster, considering local residents may also evacuate there.

The cherry blossom festival is a good opportunity to make local residents aware of the location of the evacuation site.



## Industry Awards

As an industry award for the Society of Synthetic Organic Chemistry, in fiscal 2009 the Company established the Nissan Chemical Synthetic Organic New Reaction/Method Award.

These industry awards were started by the Society of Synthetic Organic Chemistry in 2008, with the goal of "awarding experienced researchers, encouraging development of research in various areas of synthetic organic chemistry; and strengthening academic and industry relations to increase interactions for basic and applied research."

The Nissan Chemical industry award is given to researchers with unique and excellent results contributing to technology and the industry with new reactions or new methods. In fiscal 2014, Professor Masaya Sawamura of the Hokkaido University Faculty of Science received the award for his development of a highly active metallic complex catalysts based on a new solid-phase support method.

The Company will contribute to the development of synthetic organic chemistry through this award.



## Support for the Next Generation

### Work Experience for Junior High School Students

For over 10 years, the Biological Research Laboratories have provided a potential workplace and cooperated with the "Social Experience Program: 3 Days Challenge" that provides opportunities to 13-year-olds to experience the joys and difficulties of working themselves, seeing members of society firsthand. In fiscal 2014, two students were accepted from January 20 to 22, during which they had a variety of work experiences.



### Off-Site Class

The Chemical Research Laboratories have held off-site classes for chemistry experiments to support science education in local elementary schools since fiscal 2009.

In fiscal 2014, researchers visited three schools and performed "Fluffy Polymer" experiments with kids to make urethane. We hope these activities will make science feel more familiar to kids.



## Message

### Ending Off-Site Classes (Science Projects)

This project has now been going on for six years, with off-site classes in three schools, more than before. When demonstrating experiments, the children at every school are surprised and interested, and I felt glad that we all worked together to prepare.

In order to show the children how interesting science is, I believe we can still improve how we show experiments and choosing appealing topics.

As of next time, new members will be sharing their knowledge and efforts, and I hope they will create an even better program.

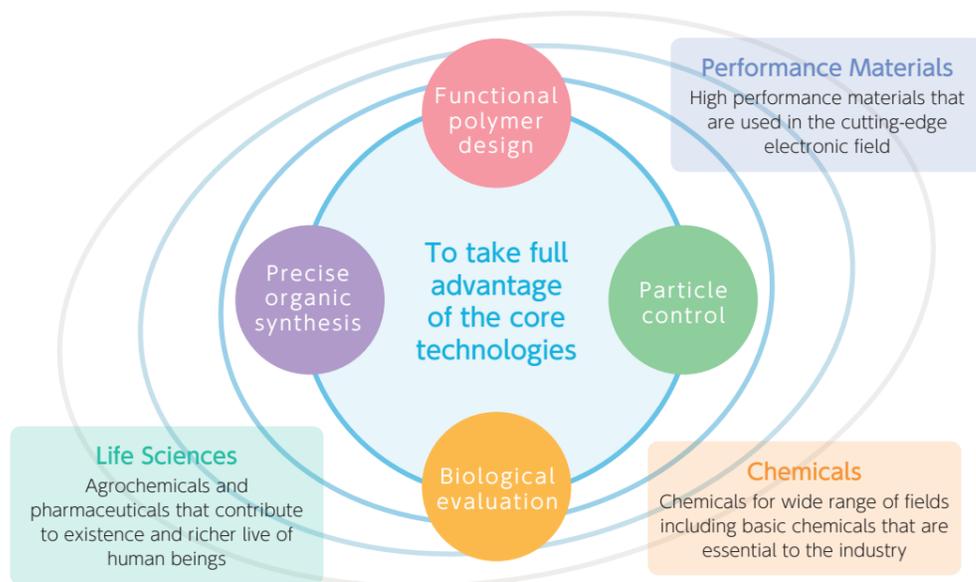


Materials Science Laboratory Materials Analysis Research Division Yuusuke Maeno

# Corporate Overview

- Corporate Name NISSAN CHEMICAL INDUSTRIES, LTD.
- Head Office 7-1, Kanda Nishiki-cho 3-chome, Chiyoda-ku, Tokyo 101-0054, Japan  
TEL:03-3296-8111
- Founded 1887
- Capital stock 18,942 million yen(As of the end of March 2015)

## Business fields



### Performance Materials

- Display Materials...Placing a polyimide resin for liquid-crystal glass, as our core product, we conduct development and sales of products in response to the needs of the display market that is expanding mainly in Asia.
- Semiconductor Materials...We provide materials that are essential for semiconductor manufacturing process to our customers, with a focus on a bottom anti-reflective coating material and multi layer process materials.
- Inorganic Colloid...We have been developing new uses of inorganic colloid for various industries over a long period of time. These days, we receive high recognition in the fields of battery, hard coating agent for optical films, and polishing agent for disk boards, etc.

research and development of new agrochemicals for major crops across the world and buying out the agents from other companies, and sell them in Japan and overseas.

### Chemicals

- Basic Chemicals...We provide our products to a wide range of fields. Our products are centered on industrial chemicals such as ammonia, nitric acid and sulfuric acid as well as high-purity products for semiconductor cleaning.
- Fine Chemicals...We manufacture and sell hardening agent for powder coatings, semiconductor sealing resin, flame retardant, sterilizing and disinfectant for swimming pools and water purification tanks, etc.

### Life Sciences

- Agrochemicals...We enrich our product lineups through

## Major Products

### Performance Materials

Electronic Materials

- Display Materials: SUNEVER® liquid-crystal glass orientation material[RAYALIGN®]  
NHC® inorganic coating material
- Semiconductor Materials: ARC® (a bottom anti-reflective coating material)  
ARC® is a registered trademark of Brewer Science, Inc.



Inorganic Materials

- Main Uses**
- SNOWTEX® [Polishing] Abrasive agent (silicon wafers, disk boards, etc.)
  - ORGANOSILICASOL [Coating] Coating material (glasses, FPD, etc.)  
[Hardening] Binder (ceramics, etc.)

### Life Science

Agricultural Chemicals

- Herbicides: ROUNDUP MAXLOAD®, SIRIUS®, ALTAIR®, etc.
- Insecticide: STARMITE®, SANMITE®, etc.
- Fungicide: LEIMAY®, ORACLE®, IKARGA®, etc.
- Fluralaner : active ingredient of veterinary pharmaceutical



Pharmaceuticals

- LIVALO® (anti-cholesterol agent)
- LANDEL® (anti-hypertension agent)



### Chemicals

Chemicals

- Basic Chemicals: Industrial chemicals such as ammonia, nitric acid and sulfuric acid  
High-purity products for semiconductor cleaning  
AdBlue®: (high-grade urea solution)  
AdBlue® is a registered trademark of the German Association of the Automotive Industry (VDA).
- Fine Chemicals: TEPIC® (Special epoxy compound for sealant)  
HI-LITE® (sterilizing agent, disinfectant)



# Business Strategy

## Midterm Business Plan Vista 2015 Stage II

We began to implement the 6-year midterm business plan, Vista 2015 Stage II, in April 2010 and had been making efforts to enhance our true strength as a Value-Creating Enterprise dedicated to growth in partnership with customers. In the first 3 years during Stage I (from FY 2010 to 2012), we successfully gained certain results including launching of new products in the performance materials and agrochemicals fields and

development of new materials that would be the future core of our business. Furthermore, we reinforced research infrastructure and expanded overseas operation base for our future business.

As a continuous effort, we started implementation of Stage II (from FY 2013 to 2015) in April 2013. We will continue working towards the realization of our ideal form while clarifying our corporate vision.

## Vision of FY 2015

To establish the status as the chemical manufacturer with growth capacity and stability by setting the fields of Performance Materials (electronic, organic, inorganic) and

Life Science (agrochemicals, pharmaceuticals) as a pair of wheels to lead the growth and solidifying the revenue base of chemical products and our subsidiaries.

## Basic Strategies

### 1. Creation of new products and new businesses

- 1) Launching of new business with highly unique materials, development of new products and new agents based on the market needs
- 2) M&A and acquisition of products to expand businesses
- 3) Establishment of the research structure to

take full advantage of the Company's core technologies

- 4) Introduction of advanced technologies through open innovation, etc.

### 2. Promotion of a business structure reform

- 1) Enhancing competitiveness by reducing cost at all plants
- 2) Solidifying and expanding business base for the growing overseas market

## State of Progress

### 1. Creation of New Products/New Businesses

#### 1) New Products

- Entry into veterinary pharmaceuticals field (Fluralaner)
- Collaboration with Kyushu University (Hypertech® multi-branched organic nanoparticles, Nanofiber Gel® supramolecular gel)
- Cell therapy materials (FCeM® series three-dimensional incubation medium for cancer cells)

#### 2) Research

- Changes to research system (start of Materials Science Laboratory, establishment of Advanced Materials Research Division and Next Generation Materials Research Division)
- Maintenance plan for Biological Science Laboratory (completion of Main Research Building, Compound Library, Artificial Weather Room)

### 2. Promotion of Business Structure Reforms

- 1) Decision to change Ammonia raw material to natural gas
- 2) Establishment of Overseas Subsidiary (Nissan Chemical Product (Shanghai) Co., Ltd.)



"FCeM® Series"  
(Sales begun in October 2014)



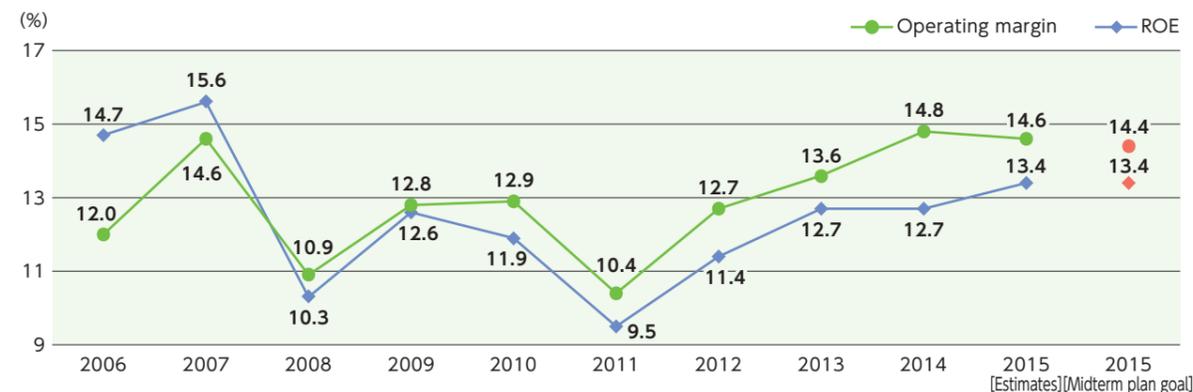
Materials Research Laboratory  
New Research Wing  
(Completed in July 2014)



Shanghai Overseas Subsidiary  
(Operations begun in April 2014)

# Financial/Non-financial highlights

## Financial data (consolidated)



## Non-financial data (non-consolidated)

Contents	Unit	2011	2012	2013	2014
Full time employee	Male (persons)	1,568	1,550	1,543	1,553
	Female (persons)	158	162	164	168
New employee	Male (persons)	21	22	34	39
	Female (persons)	5	3	7	10
Re-employment of retired employees	Number of employees (persons)	65	59	66	60
	Re-employment rate (%)	78	64	63	66
Female staff rate (Full time employee)	Rate (%)	9.2	9.5	9.6	9.8
Female managers	Number of employees (persons)	8	9	9	10
	Managers (%)	1.8	2.0	2.0	2.1
Employment of people with disabilities	Number of employees (persons)	30	32	33	35
	Rate (%)	1.96	2.12	2.22	2.35
Employees obtaining maternity leave	Number of employees (persons)	4	5	8	9
Employees obtaining Child Care Leave	Male (persons)	0	0	0	1
	Female (persons)	3	6	6	6
Shorter working hours to raise children	Male (persons)	0	0	0	0
	Female (persons)	2	5	7	9
Average monthly overtime	(Time)	15.8	16.8	18.0	18.8
Annual leave acquisition rate	Acquisition rate (%)	76.9	77.6	76.9	73.4
Leaving job within 3 years after employment	Number of employees (persons)	1	4	1	1
	Rate (%)	1.2	7.5	3.1	3.8

# Group Company Initiatives

## Nissei Corporation

The Nissei Corporation contributes to society as a specialized trading company dealing in a variety of products, with a base in chemical products. In recent years, it has been expanding global business and establishing overseas subsidiaries and offices, particularly in Asia. With an awareness of the importance of compliance, internal auditing and internal workshops are held for relevant laws as initiatives to increase trust.

Initiatives to protect the environment include PET

bottle cap recycling activities and giving an original "Environment Quiz" to employees, having them think about environmental issues.

As initiatives to participate in the local community, in addition to cleaning sidewalks around the head office once per month, starting this year 10 employees participated in the 2015 Tokyo Marathon as charity runners. We will continue to promote activities for harmony with the environment, and actively participate in community activities.

### Overseas Headquarters



## Topics

### Participated in the Tokyo Marathon 2015 as a charity runner

As my first full marathon, the training to prepare was very harsh. I was nervous and worried before starting, but once I started running I felt relaxed and ran well. A deciding reason for that was the cheering from the sidelines, including from coworkers, was more encouraging than I had imagined. I would like to thank everyone again. I almost gave up many times after 30 km, but thinking of those who hadn't been able to race I continued running, refusing to let myself give up. As a result, I finished the marathon, and was filled with a sense of accomplishment upon reaching the goal. It reminded me of how wonderful it is to accomplish something. I would like to run the marathon again given the opportunity!



Environmental Material Sales Division Naoki Igarashi

## Nissan Butsuryu Co., Ltd.

Nissan Butsuryu Co., Ltd. handles general logistics for the Nissan Chemical Group, including packaging at plants, shipping, and product delivery, working to ensure and improve the environment, safety and logistics quality.

At the Toyama branch where company vehicles are used for a trucking business, and at the Kawasaki Logistics Center, G-Mark certification (for safe companies) and Green Management certification have been received and maintained, to activities to comply with laws, to ensure traffic safety, and for environmental protection.

Initiatives for the environment and safety at the Kawasaki Logistics Center were covered in the logistics industry information magazine Logistics Weekly (Logistics Industry Newspaper Co., Ltd.) in the March 16/23, 2015 issue.

Also, both locations use the specialized tanker truck for AdBlue® high-grade urea solution used to reduce NOx diesel emissions, manufactured by Nissan Chemical Industries, Ltd., in order to contribute to safe transport and reducing environmental burden on society.

Other locations are also involved in initiatives throughout the company as a whole, in collaboration with subcontractors and cargo owners, for idling stops of logistics vehicles and devices, patrols to confirm rules are being followed, and risk assessment to prevent accidents.



Toyama Branch Garage



Kawasaki Logistics Center

## Nissan Engineering, Ltd.

As the engineering section of the Nissan Chemical Group, Nissan Engineering, Ltd. designs and builds chemical manufacturing plants. Employees and subcontractors work together on safety activities with the goal of zero accidents.

### [Implementing Risk Assessment]

In order to create a safe work environment where subcontractors can work without worry when building plants, risk assessment is implemented at construction sites to ensure safety in the first place. By standardizing work manuals and having all subcontractors suggest risk factors to implement concrete safety measures, we make efforts to eradicate disaster risks and continue disaster-free operation.

### [Passing on Technical Expertise from Veterans to Rookies]

Through construction projects, efforts are made to pass on technical expertise in design and safety. For design techniques, veterans inspect designs made by rookies, in order to ensure they understand how to make designs that fit the requirements of both clients and laws. For safety techniques, veterans and rookies perform safety patrols together, teaching safety management tips for working at heights or when operating cranes, etc. Study groups are also held for safety laws, in order to pass on veterans' knowledge and experience in safety measures to rookies.



Special Feature

CSR Management

Responsible Care Activities

Together with our Stakeholders

Corporate Overview

# Group Company Initiatives

## Nissan Green & Landscape Co., Ltd.

### Tree Diagnosis to Prevent Collapse of Roadside Trees

Roadside trees such as cherry, zelkova, platanus or ginkgo trees beautify city views, provide shade, help reduce heat islands, absorb CO<sub>2</sub>, dampen sound, provide a screen, block wind, and help slow fires.

However, trees languish and succumb to a disease as they get older like human beings, increasing the risk that broken branches and fallen trees will injure people, damage cars, and hinder emergency vehicles for disaster due to typhoon, heavy snow, or earthquake.

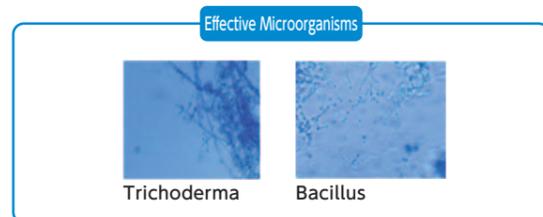
Much like people, it is necessary to perform health checkups on trees on a regular basis and provide the proper treatment, including pruning or removing the tree if necessary. One common reason for trees collapsing is due to hollowing out from disease causing material decay. The Company has 7 certified tree doctors who perform detailed diagnosis including visual diagnosis and use of a resistograph (a device that inserts a thin needle into the tree and measures health based on resistance), in order to prevent accidents.



Diagnosis using resistograph

## Nihon Hiryo Co., Ltd.

Nihon Hiryo Co., Ltd. is handling from R&D, manufacturing and selling the production such as fertilizer, soil conditioners, and gardening soil. And the production is contained with using fertilizer including natural humus (wood peat) and effective microorganisms. Products synthesized by humus and microorganisms contribute to environmental-conservation agriculture which enables stable production of crops, creates a healthy soil and crops and is environmentally-friendly.



Soil Conditioner Using Effective Microorganisms

Production of AdBlue® (high-grade urea solution), which is vital to operate NOx purification units for diesel engines (=urea SCR system), is received license contract from Nissan Chemical Industries, Ltd., and this AdBlue® also contribute to prevent air pollution.

Both the Shinmachi and Handa plants manufacturing bases actively promote environmental protection activities such as preventing pollution, reducing industrial waste, and reducing energy consumption.

# ISO26000 Core Subjects Comparison Table

Core Subjects	Issues	Nissan Chemical CSR Report 2015	Corresponding page
Organizational Governance	6.2 Organizational Governance	Top Message	03
		Promotion of CSR	09
		CSR Basic Policies	09
		Corporate Governance	09
		Compliance	10
		Risk Management	11
		Information Disclosure	12
Promotion of Responsible Care Activities	13		
Human Rights	6.3	Issue1: Due Diligence	6.3.3
		Issue2: Situation where Human Rights are Threatened	6.3.4
		Issue3: Avoidance of Complicity	6.3.5
		Issue4: Resolving Grievances	6.3.6
		Issue5: Discrimination and Vulnerable Groups	6.3.7
		Issue6: Civil and Political Rights	6.3.8
		Issue7: Economic, Social and Cultural Rights	6.3.9
		Issue8: Fundamental Principles and Rights at Work	6.3.10
Labor Practices	6.4	Issue1: Employment and Employment Relationships	6.4.3
		Issue2: Conditions of Work and Social Protection	6.4.4
		Issue3: Social Dialogue	6.4.5
		Issue4: Health and Safety at Work	6.4.6
		Issue5: Human Development and Training at Work	6.4.7
Environment	6.5	Issue1: Anti-Corruption	6.5.3
		Issue2: Sustainable Resource Use	6.5.4
		Issue3: Climate Change Mitigation and Adaptation	6.5.5
		Issue4: Protection of the Environment, Biodiversity and Restoration of Natural Habitats	6.5.6
Fair Business Practice	6.6	Issue1: Anti-Corruption	6.6.3
		Issue2: Responsible Political Involvement	6.6.4
		Issue3: Fair Competition	6.6.5
		Issue4: Promoting Social Responsibility in the Value Chain	6.6.6
		Issue5: Respect for Property Rights	6.6.7
Consumer Issues	6.7	Issue1: Fair Marketing, Factual and Unbiased Information and Fair Contractual Practices	6.7.3
		Issue2: Protecting Consumers' Health and Safety	6.7.4
		Issue3: Sustainable Consumption	6.7.5
		Issue4: Consumer Service, Support, and Complaint and Dispute Resolution	6.7.6
		Issue5: Consumer Data Protection and Privacy	6.7.7
		Issue6: Access to Essential Services	6.7.8
		Issue7: Education and Awareness	6.7.9
Community Involvement and Development	6.8	Issue1: Involvement in Community	6.8.3
		Issue2: Education and Culture	6.8.4
		Issue3: Employment Creation and Skills Development	6.8.5
		Issue4: Technology Development and Access to Technology	6.8.6
		Issue5: Wealth and Income Creation	6.8.7
		Issue6: Health	6.8.8
		Issue7: Social Investment	6.8.9

Special Feature

CSR Management

Responsible Care Activities

Together with our Stakeholders

Corporate Overview



Nissan Chemical Industries, Ltd.  
is a member of the "Responsible Care Committee"  
of Japan Chemical Industries Association (JCIA).

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