# ANNUAL REPORT 2016

For the year ended March 31, 2016

NISSAN CHEMICAL INDUSTRIES, LTD.

# A Fusion of Knowledge



# The Nissan Chemical Group Helps to Build a Sustainable Society through Our Business Activities.

The demand for new technologies and products is rising, as is the awareness of the need to preserve the global environment. In response to this demand, we establish de-facto standard technology and create the most advanced materials that help to build a sustainable development of society. At the same time, we offer affordable and fully functional products that meet the global market needs.

○The population is growing and also rapidly aging globally.

There are growing concerns over food shortages and the declining number of farmers in the domestic agriculture. Faced with these circumstances, we are working to develop agrochemicals that will secure stable agricultural product yields, while also helping to streamline of agricultural work and cut down on labor.

In addition, we also develop pharmaceuticals for healthier and more enriched lives for people.

As the changes of the times accelerate, various social issues are coming to light.

Moving forward, we will continue our pursuit of technological innovation by concentrating the expertise of in-house and fusing external knowledge with our work to solve these issues.

### **Editorial Policy**

In 1992, we introduced responsible care activities, which are initiatives designed to ensure environmental friendliness, health and safety throughout the entire lifecycle of each chemical. We have disclosed the details of these activities via Environmental and Safety Report since 1999 and via CSR Report since 2013. In the CSR Report, we tried to provide our stakeholders with easy-to-understand information regarding our CSR activities. In the FY2016 issue we begin publishing this information as the Annual Report, and add a business overview and financial highlights to make our group's business activities understood better. Detailed financial information is provided in the Financial Section. In addition, the Special Feature pages contain a summary of our long-term business plan and medium-term business plan that were launched in April this year. This summary describes that how we will help to solve social issues through new business domains and strategies. Moving forward, we will continue developing our CSR activities to contribute to the realization of a sustainable society. We will also improve the content of the report and make it a useful tool for communicating with our stakeholders.

### **Reporting period**

FY2015 (April 2015 to March 2016)

\*The occupational accidents data is from January to December 2015 (P39).

#### Scope of reporting

This report describes the initiatives of the Nissan Chemical Group, with a focus on environmental and safety initiatives of Nissan Chemical Industries, Ltd. \*The financial data includes the data of Nissan Chemical Industries, Ltd., its consolidated subsidiaries, and its Entities accounted for using equity method \*The non-financial data only includes the data of Nissan Chemical Industries, Ltd.

#### Consolidated subsidiaries:

Nissei Corporation, Nissan Butsuryu Co., Ltd., Nissan Green & Landscape Co., Ltd., Nissan Engineering, Ltd., Environmental Technical Laboratories, Ltd., Nihon Hiryo Co., Ltd., Nissan Chemical America Corporation (NCA), Nissan Chemical Europe S.A.R.L. (NCE), NCK Co., Ltd. (NCK), and Thin Materials GmbH.

Entities accounted for using equity method:

Sun Agro Co., Ltd., Clariant Catalysts (Japan) K.K.

#### Group companies:

The above consolidated subsidiaries and entities accounted for using equity method, Nissan Chemical Taiwan Co., Ltd. (NCT), Nissan Chemical Product (Shanghai) Co., Ltd. (NCS), and Nissan Chemical Agro Korea Ltd. (NAK).

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# We are pleased to release our Annual Report 2016.



President & CEO Kojiro Kinoshita

We were founded in 1887 as Tokyo Jinzo Hiryo, Japan's first manufacturer of chemical fertilizers. Dr. Jokichi Takamine, who discovered the Taka-Diastase digestive enzyme, was deeply impressed by the state-of-the-art technology for manufacturing chemical fertilizers that he observed while he was studying in Britain. This experience inspired him to found the company. After returning to Japan, Dr. Takamine launched an innovative business that would fundamentally change the nation's agriculture, obtaining the support of people such as Eiichi Shibusawa, one of the leaders in the Japanese business world at that time. Food production in Japan increased significantly as a result of repeated efforts made by pioneers, driven by the strong belief that the widespread use of chemical fertilizers is essential for increasing crop yield. We at the Nissan Chemical Group have inherited this strong pioneering spirit, and have applied it to the creation of innovative technologies and businesses that will facilitate the progress of society. We have a deep-rooted belief that corporate social responsibility lies in contributing to the sustainable development of society through business.

At the Nissan Chemical Group, we promote responsible care activities by viewing the securing of the environment, health, and safety over the entire product lifecycle-from R&D to manufacturing, distribution, sales, use, and disposal—to be our most important task. We have set basic policies for our activities, have set goals, and take actions in the fields of environmental protection, process safety & disaster prevention, occupational safety & health, and chemicals & product safety. At the same time, the departments in charge supervise the contents of these activities, handle problems that have emerged or potential risks, and seek constant improvement.

We are also committed to interacting with local communities. We regularly hold tours of our facilities and briefing sessions at all of our plants to improve understanding and trust in our activities for environmental protection and process safety & disaster prevention. For children who will grow up to be responsible for the next generation, our laboratories provide them with opportunities to learn about the hardships and pleasures of working, and the fun of chemistry through work experience and special classes given by visiting their schools.

For our employees, we have established programs related to work-life balance and enhanced mental health measures and other related initiatives so that they can enjoy healthier, enriched lives. We have also been focusing our efforts on creating a workplace environment that enables a diverse range of individuals to maximize their capabilities.

In addition, we have been strengthening our corporate governance, a system for improving the soundness and efficiency of management, so that our stakeholders can earn sustainable, long-term profits. We strive to ensure that management decisions are made quickly, clarify the management responsibility and business execution responsibility, and ensure the soundness and transparency of management under the board meeting and board of corporate auditors, whose members include highly independent outside officers.

In April 2016, we launched two new business plans, the long-term business plan "Progress2030" and mid-term business plan "Vista2021." In developing these plans, we defined our business model as "Future-Creating Enterprise that responds to social needs with unique, innovative technologies." This model reflects our desire to create a better future for human and environment. We aim to develop synergistically with society by helping to solve global issues such as global warming and food and energy shortages.

Moving forward, we will continue to base our business activities on our corporate philosophy which is "we contribute to the society in harmony with the environment, based on our excellent technologies, products and services." And we will continue working to solve social issues and actively fulfill our responsibility as a company by evolving, deepening, and expanding our unique technologies so that we can achieve our corporate vision of becoming "a corporate group that contributes to human survival and development."

We humbly ask for your continued understanding and support.

# **Corporate Ethos Structure**

### Mission Statement (Our Values)

Contribute to society with excellent technologies and products. Promote prosperity and welfare through concerted efforts to constantly develop new areas. Respect people who exhibit a sense of responsibility, originality and motivation.

### Corporate Philosophy (Corporate Purpose)

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

### **Corporate Vision**

A corporate group that contributes to human survival and development.

Mission Statement <sup>(Our Values)</sup>

Corporate Philosophy (Corporate Purpose)

Corporate Vision

Basic CSR Policy

### **Basic CSR Policy**

- Conduct sensible business activities as a member of the international community in compliance with laws and regulations.
- (2) Enhance corporate value by providing safe and useful products and services.
- (3) Strive to achieve no-accidents & no-disasters and protect the global environment.
- (4) Disclose information appropriately with a focus on communication with stakeholders.(5) Create a cheerful and pleasant workplace by respecting the individuality and personalities of employees.
- (6) Conduct ourselves as good corporate citizens and decent members of society.

### **Future-Creating Enterprise that Responds to Social Needs with**

We, Nissan Chemical Group, conduct business activities in four business domains using our five core technologies, including optical control, which we added to the range of technologies we have accumulated over the years.

Based on our recognition of various social issues and changes, we aim to enhance our initiatives for addressing environmental problems and achieve sustainable growth together with society. We will also work to provide new products through each business domain.



### **Unique, Innovative Technologies**

### **Our Business Activities**

Supplying display materials and semiconductor materials in response to the technological innovations of customers

Providing sensor materials needed for IoT and healthcare

Development of interconnect materials that allow for the communication of greater amounts of data at higher speeds

Supplying agrochemicals that help boost crop yields and save on agricultural labor

Providing veterinary pharmaceuticals intended for companion animals that comfort people

Creating pharmaceuticals that cater to medical needs

Developing biomedical materials that contribute to advanced medical care

Providing battery materials that are compatible with batteries that deliver a higher level of performance

Developing energy harvesting materials that help utilize unused energy

Creating thermal control materials that help improve the efficiency of energy use

Strengthening responsible care activities

Respecting the individuality and personality of each person and creating a pleasant workplace

Strengthening corporate governance and ensuring the appropriate disclosure









Photovoltaic generation

# Nissan Chemical Products that Play an Active Role in Society

Here we introduce our three business domains and products used in various parts of society.



### **Performance Materials**



**Display Materials** 

- SUNEVER<sup>®</sup> (polyimide for LCD / flat panel displays)
- NHC<sup>®</sup> (insulating hard coating)



### Semiconductor Materials

- ARC<sup>®</sup>\* (bottom anti-reflective coating for semiconductors) \*ARC<sup>®</sup> is registered trade mark of Brewer Science, Inc.

### **Inorganic Materials**

- SNOWTEX<sup>®</sup>
- (semiconductor polishing, hard coating, etc.) ORGANOSILICASOL
- (coating for anti-scratch, insulation, CTE reduction)











### Life Sciences

Fungicide

• LEIMAY®

• ORACLE®

PULSOR<sup>®</sup>



### **Agricultural Chemicals**

Insecticide

STARMITE<sup>®</sup>

SANMITE<sup>®</sup>



# **Pharmaceuticals**

- LIVALO® (anti-cholesterol agent)
- LANDEL<sup>®</sup> (anti-hypertension agent)

- NIP-022 (platelet increasing agent)
- NT-702 (asthma care, arteriosclerosis obliterans treatment agent)
- NTC-801 (anti-arrhythmic agent)

### Chemicals



# Chemicals

- MELAMINE (plywood adhesive, etc.)
- High purity agent
- High-grade urea solution (AdBlue<sup>®\*</sup>)
- FINE OXOCOL<sup>®</sup> \*AdBlue® is a registered trademark of Verband der Automobilindustrie.
- TEPIC<sup>®</sup> (special epoxy compound for sealant)
- MELAMINE CYANYRATE (flame retardant)
- HI-LITE<sup>®</sup> (disinfectant)
- NISSAN REISHI (health food)

#### ROUNDUP<sup>®</sup> MAXLOAD

Herbicide

• TARGA®

SIRIUS<sup>®</sup>

ALTAIR<sup>®</sup>

• PERMIT®

### **Veterinary Pharmaceuticals**

Fluralaner

### Financial and Non-Financial Highlights



#### **Operating income and Operating margin**











Greenhouse gas emissions

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### Financial Data (consolidated)

	Unit	FY2011	FY2012	FY2013	FY2014	FY2015
Sales	100 million yen	1,486	1,538	1,637	1,712	1,769
Operating income	100 million yen	155	195	222	253	286
Ordinary income	100 million yen	159	205	237	264	295
Net income attributable to owners of parent	100 million yen	110	139	167	182	224
EBITDA*1	100 million yen	259	290	308	338	383
EPS	Yen/ Share	64.52	83.74	102.11	113.99	143.37
Dividend	Yen/ Share	24	26	30	36	44
Dividend payout ratio	%	37.2	31.0	29.4	31.6	30.7
Total assets	100 million yen	1,901	1,992	2,080	2,239	2,282
Net assets	100 million yen	1,196	1,267	1,378	1,513	1,569
Cash	100 million yen	279	319	308	313	353
Liabilities with interest	100 million yen	389	381	361	351	331
Equity ratio	%	62.4	63.0	65.7	66.9	68.1
Capex	100 million yen	83	81	88	98	102
Depreciation	100 million yen	105	95	85	85	97
R&D expenses	100 million yen	136	137	142	150	158
R&D expenses / sales	%	9.2	8.9	8.7	8.7	8.9

### Non-Financial Data (non-consolidated)

	Unit	FY2011	FY2012	FY2013	FY2014	FY2015
Full-time employees Male	People	1,568	1,550	1,543	1,553	1,567
Female	People	158	162	164	168	172
Percentage of females among full-time employees	%	9.2	9.5	9.6	9.8	9.9
New employees Male	People	21	22	34	39	59
Female	People	5	3	7	10	6
Percentage of females among new employees	%	19.2	12.0	17.1	20.4	9.2
Female managers	People	8	9	9	10	12
Percentage of females among managerial staff	%	1.8	2.0	2.0	2.1	2.5
Re-employment of retired employees	People	65	59	66	60	64
Percentage of re-employment of retired employees	%	78	64	63	66	97
Percentage of employment of people with disabilities*2	%	1.96	2.12	2.22	2.35	2.15
Number of people who started maternity leave	People	4	5	8	9	7
Number of people who started of childcare leave Male	People	0	0	0	1	2
Female	People	3	6	6	6	8
Number of people who started shorter working hours for childcare Male	People	0	0	0	0	0
Female	People	2	5	7	9	11
Average overtime per month	Hrs	15.8	16.8	18.0	18.8	19.0
Percentage of those who take annual leave	%	76.9	77.6	76.9	73.4	77.4
Leaving job within 3 years of employment	People	1	4	1	1	3
Percentage of employees leaving job within 3 years of employme	nt %	1.2	7.5	3.1	3.8	12.0
Amount of energy consumed (crude oil equivalent)*3	1,000 kL	97	97	95	92	99
Waste generation	1,000 tons	26.3	26.8	26.3	33.0	33.4
Final disposal volume of waste	1,000 tons	2.3	2.5	1.5	2.3	2.2
Water resources input*4	Million m <sup>3</sup>	41.6	40.3	41.3	39.0	40.7

\*1: Operating margin + Depreciation \*2: Statutory rate: 2.0% \*3: Energy: Fuel, purchased electricity and purchased steam used for business activities \*4: Water resources: Tap water, groundwater and industrial water used for business activities

# "Aiming to Be a Company that Creates the Future" -



In April 2013, The Nissan Chemical Group launched "Vista2015 Stage II," a three-year medium-term business plan. Since then, we have been executing two basic strategies which are "creating new products and new businesses" and "pursuit of business structure reforms." Regarding new products, active ingredient of veterinary pharmaceutical, display materials and others have enjoyed growth, while the development of new materials such as organic nanoparticle and three-dimensional cell culture media have made progress. We have also steadily advanced the development of research infrastructures to accelerate the creation of new materials, established a local subsidiary in China, and pursued other initiatives. As a result of these efforts, operating profit for the fiscal year 2015 reached 28.6 billion yen, exceeding the target by 2.6 billion yen.

While global economic trends are becoming increasingly uncertain, we have identified that "foray into new business domains", "development of new products that match market trends", and "enhancing R&D capability" as our tasks for ensuring sustainable growth. To overcome these challenges and secure growth, in April 2016, we launched "Progress2030," a long-term business plan for the period to 2030, and "Vista2021," a six-year medium-term business plan which shows our ideal situation of 2021.

In developing these plans, we adopted new business model called "Future-Creating Enterprise that responds to social needs with unique, innovative technologies." We will strive to develop in synergy with society by helping to solve social issues such as global warming, energy problems and food shortages.



**Core Technologies** 

### 1. Outline of "Progress2030" Long-Term Business Plan

### The Company's 2030 Vision

A corporate group which provides new values for helping to enrich people's lives by integrating internal and external knowledge with facing globally-changing society

A group of first-class pioneers who blaze a way to the future with enthusiasm by trusts they have built and skills they have cultivated

### 2 Business Domains

"Information & Communication", "Life Sciences", "Environment & Energy" and "Chemicals & Affiliates" that are based on the five core technologies

### 3 Basic Strategies

Entering new fields by evolving, deepening and expanding unique technologies

- Information & Communication (display, semiconductor, inorganic, optical functional and sensor materials)
   For display, semiconductor and inorganic materials, we will provide products based on technological innovations in the market. We will also
   create sensor materials by using our existing technologies and optical functional materials by establishing optical control technologies.
- 2) Life Sciences (agrochemicals, veterinary pharmaceuticals, pharmaceuticals and biomedical materials) We will strengthen the pipeline for agrochemicals and pharmaceuticals, also develop new veterinary pharmaceuticals. In addition, we will create biomedical materials that contribute to advanced medical care using accumulated technologies for biological evaluation and material design.
- Environment & Energy (batteries, energy harvesting and thermal control materials)
   We will establish a device evaluation technology then supply battery materials and materials that contribute to efficient use of energy.
- 4) Chemicals & Affiliates (basic chemicals, fine chemicals and affiliates) In addition to responding to business environmental changes, we will introduce high-performance compounds related to TEPIC<sup>®</sup>, an epoxy compound.

### 4 Business Size

Net sales	Information & Communication	100 billion yen
	Life Sciences	100 billion yen
	Environment & Energy	50 billion yen
	Chemicals & Affiliates	50 billion yen
	Total	300 billion yen
Operating incom	ne	50 billion yen
Operating margi	in	16.7%



# 2. Outline of "Vista2021" Medium-Term Business Plan

-A six-year plan starting in FY2016-

The plan is divided into the first three years (FY 2016 to 2018) as Stage I and the second three years (FY 2019 to 2021) as Stage II.

Ideal Situation of 2021

- Information & Communication and Life Sciences are the driving force for growth while Chemicals & Affiliates achieve a stable profit.
- Establish the foundation of Environment & Energy business and a position as a promising chemical manufacturer that keeps moving forward with a strong presence.

### 2 Financial Target



### 2. Operating income by segment [100 million yen]



\*1 Net income attributable to owners of parent

Naphtha (¥/kL): FY2015 42,800 FY2016 35,400 FY2017 and onward 51,100 FX rate (¥/\$): FY2015 1H 122 2H 118 FY2016 and onward 115

### 3 R&D Expenses, Capex

R&D Expenses / Capex [100 million yen]



# 4 Financial Indicators (FY2018 target)

Operating margin	Maintain above 15%	
ROE	Maintain above 14%	
R&D expenses/sales	Above 8%	

### 5 Shareholder Return



Start of "Progress2030" Long-Term Business Plan and "Vista2021" Medium-Term Business Plan
— "Aiming to Be a Company that Creates the Future" —

### 3. Outline of "Vista2021 Stage I"

### **Basic strategies**

- 1) Maximizing the profit from existing products Boosting the market shares of products for growing fields, driving overseas business expansion, and reducing costs
- 2) Improving marketing power
- 3) Enhancing R&D capability

Identifying market needs by moving closer to customers and obtaining information about advanced materials Improving existing technologies, establishing new technologies, and accelerating the development of new products

### 2 Sources of Growth

### 1) Chemicals

- i. Increasing the sales of AdBlue, a high-grade urea solution, and high purity ammonia
- ii. Creating actual demand for TEPIC in new grades

### 2) Performance Materials

- i. Increasing sales of display materials for photo-alignment IPS and HYPERTECH®, multi-branched organic nanoparticles
- ii. Expanding sales of anti-reflective coating materials for semiconductors (ARC®\*) and multilayer process materials (OptiStack®\*) and launching sensor materials
- iii. Entering the oil & gas business fields with selling chemicals that enhance productivity of oil well
- iv. Developing materials for OLED and expanding sales
- v. Enhancing production systems and customer services in overseas countries

 $*\mbox{ARC}^{\otimes}$  and  $\mbox{OptiStack}^{\otimes}$  are registered trademarks of Brewer Science, Inc.

### 3) Agricultural Chemicals

- i. Expanding sales of ALTAIR, a paddy rice herbicide and launching a new product line of ROUNDUP, a non-selective herbicide
- ii. Establishing overseas subsidiaries and increasing sales in overseas markets
- iii. Expanding application of Fluralaner, an active ingredient of veterinary pharmaceutical, to "spot on" drugs for transdermal administration for dogs and cats

### 4) Pharmaceuticals

- i. Deriving new products and enhancing the pipeline
- ii. Expanding the business of custom manufacturing service for active ingredients of generic drugs

### 3 Initiatives for Stage II and Onward

### 1) Information & Communication

- i. Developing heat-resistant lenses, light control film and optical interconnect materials
- ii. Creating next-generation display and semiconductor materials

### 2) Life Sciences

- i. Developing NC-515 insecticide, new fungicides and paddy rice herbicides
- ii. Jointly developing NIP-022, a platelet increasing agent and promoting the research collaboration of antifungal drugs
- iii. Achieving global standardization of cell culture materials

### 3) Environment & Energy

- i. Developing materials for secondary batteries and fuel cells
- ii. Creating energy harvesting materials

### 4) R&D

- i. Acquiring seeds in the field of biomedical materials
- ii. Introducing cutting-edge technologies through open innovations
- iii. Developing new business fields by strengthening and fusion of core technologies

# **Performance Materials**

We will continue to expand the business by actively developing display, semiconductor, and inorganic materials, as well as new materials for new fields.

### 🎅 Display Materials

Our display materials business, led by SUNEVER<sup>®</sup> (polyimide for LCD / flat panel displays) and NHC<sup>®</sup> (insulating hard coating), is developed by meeting the expanding display market needs in and around Asia.

### Semiconductor Materials

We provide bottom anti-reflective coating (ARC<sup>®</sup>) materials necessary for semiconductor manufacturing process. We also work to expand our business by developing multilayer process materials and temporary bonding materials.

### 🎅 Inorganic Materials

We have continuously developed nano-colloids to a variety of industries for many years using nanoparticle control technology, one of our core technologies. We strive to supply our main product, SNOWTEX<sup>®</sup>, and other products.

### New Products

Our development focuses on next generation products that identify the future needs of customers.

### **Main Products**

### **SUNEVER®**

This is a coating material made from polyimide resin. It is used for glass substrates to align liquid crystal molecules in a particular direction. We offer various grades of this product for small- and medium-sized screens, such as PCs, tablets and smartphones, in addition to those for the latest flat-panel LCD TVs.

### Anti-reflective coating materials for semiconductors (ARC®)

This is a material that is developed for semiconductor lithography. It can be used to coat the part under photoresist to solve various problems with lithographic exposure. We offer products that are compatible with a wide range of line widths, from the i-line to the cutting-edge ArF, thereby contributing to technological innovation of semiconductor devices.

#### **SNOWTEX®**

This is a colloid solution with nano-sized silica particles dispersed stably in water. Taking advantage of its diverse functions, it has been used in a wide range of fields such as paper, fibers, iron and steel, foundry, and refractory. In recent years, we have developed new applications for this product, such as those for batteries, catalyst binders, coating agents for ink-jet printing paper, and polishing agents for electronic substrate materials and electronic recording media.

#### ORGANOSILICASOL

This is a colloid solution with nano-sized silica sols dispersed stably in an organic solvent. It can be applied for new uses and fields, such as compounding with resin, which is difficult to do with conventional water-based silica sols. It is used for organic-inorganic composite materials and hard coating agents.



LCD TV



Silicon wafer

### **Features of Our Business**

### **Electronic Materials**

- Promoting R&D in an integrated manner with customers in Japan and overseas countries
- Bases established in Japan, Korea, Taiwan, and China that target the continuously growing field of electronic materials in the Asian market

### **Inorganic Materials**

Development of a wide range of applications that take advantage of the features of high performance colloid products

Prompt response to customers through collaboration between sales, manufacturing, and research teams





In FY2015, sales of SUNEVER<sup>®</sup> for small- and medium-sized screens such as smartphones and those for large screens such as TVs remained strong, but ARC<sup>®</sup> and other products were affected by the decline in operating rates of some customers. Regarding inorganic materials, SNOWTEX<sup>®</sup> for polishing agents for electronic materials struggled but other general uses and ORGANOSILICASOL sales increased year on year.

### ΤΟΡΙΟΣ

### **Development of OLED Related Materials**

We work on the development of materials that support the technological innovation of displays, such as OLED and flexible panels, and next-generation products related to semiconductor materials and inorganic materials. Most importantly, we focus our efforts on developing markets for OLED, which is expected to grow in the future as a next-generation display material. In addition to coating hole-injection layer materials and TFT planarizing film materials, we are currently moving forward with the development of distinctive peripheral materials, such as bank materials that help ensure the uniformity of pixels during inkjet application and optical alignment materials used for anti-reflective retardation films.

### Hole injection layer materials (Elsource®)

These products are effective for improving the characteristics and reliability of devices. The optimized ink characteristics have made them applicable for various coating methods. They help ensure lower costs and the improved reliability of panels.

### TFT planarizing film materials (NPAR®)







# **Agricultural Chemicals**

Provide a stable supply of food to people around the world Provide agrochemicals that are environmentally friendly This is what we aim to do.

We seek out and develop new agents for mainstay crops around the world as well as those in Japan. We also actively acquire other companies' agents and jointly develop agents. We constantly work to expand our product lineup and sell our products in Japan and other countries.

### Agrochemicals

We develop, manufacture, and sell herbicides, insecticides, fungicides, and other products used for the management of agricultural land and green land.



We develop and manufacture active pharmaceutical ingredients used in ectoparasiticides for companion animals.

### **Main Products**

#### **SIRIUS®**

To meet the needs of farmers, we develop and sell a large number of one-shot herbicides for rice paddies. The main component of these herbicides is SIRIUS<sup>®</sup>, our proprietary active ingredient. We have been marketing these products in overseas markets as well in more than 20 countries for over 20 years.

#### **ALTAIR®**

ALTAIR®, an active ingredient in herbicides for rice paddies, is a wide-spectrum herbicide with that is highly effective in eliminating bulrush and cyperaceous perennial weeds. It is also effective for weeds that are resistant to conventional sulfonylurea- based herbicides. We market this product in Japan, Korea, and China.

#### ROUNDUP® MAXLOAD, ROUNDUP® MAXLOAD AL, ROUNDUP® MAXLOAD ALII

In 2002, we acquired the exclusive marketing rights to this product in Japan from Monsanto. While this herbicide kills most weeds, it has low toxicity to humans and animals and does not remain in the soil or in the environment. Due to these benefits, this herbicide is popular all over the world. From 2011, we added ROUNDUP® MAXLOAD AL to the product line-up. Created for general households, this product features a container with a shower head and can be used without needing to be diluted.

#### **TARGA®**

This herbicide controls gramineous weeds that affect broadleaf crops such as soy beans, rapeseed, beets, cotton, and sunflowers. It is used in more than 35 countries, including India and countries in the Americas and Europe.

#### **PERMIT**®

Taking advantage of the fact that is extremely effective against cyperaceous weeds, we market this product in Japan under the trade names of HICUT<sup>®</sup>, which is a herbicide for rice paddies in the mid to late term that is highly effective against the pesky weed Eleocharis kuroguwai, and INPOOL<sup>®</sup>, for lawn. We also market it as PERMIT<sup>®</sup> in more than 20 overseas countries as an herbicide for rice paddies, corn fields, sugar cane fields, and lawns.

#### **STARMITE®**

This acaricide prevents and eliminates spider mites from fruits, tea, and vegetables. It is extremely safe for the natural enemies of spider mites and useful insects such as honey bees. It is also popular in overseas countries. In Korea it is used for fruits and vegetables, and in South America it is used for flowers.

#### **SANMITE®**

This insecticide/acaricide is effective against spider mites and rust mites in fruit trees, as well as spider mites and whiteflies in vegetables. We also market this product in more than 30 overseas countries.

#### LEIMAY<sup>®</sup>, ORACLE<sup>®</sup>

These fungicides have specific activity for diseases caused by oomycetes and myxomycetes. We sell LEIMAY<sup>®</sup>, which is used as an atomizing agent for potatoes, grapes, and vegetables, and ORACLE<sup>®</sup>, which is used for preventing and eliminating the root-knot disease of cruciferous vegetables and soil-borne diseases of potatoes, rice, vegetables, and lawns.

#### **GREATUM®**, **PULSOR®**

These products contain a fungicide that we acquired from Dow AgroSciences in 2010. We market GREATUM® for the sheath blight disease that affects wetland rice and IKARGA® for large patch lawn disease. We export and sell this product in overseas markets including China, Korea, India, and Brazil under the trade name of PULSOR®.

#### Fluralaner

Fluralaner is a chemical compound with an isoxazoline skeleton that we invented. It is an active ingredient found in BRAVECTO<sup>™</sup>\*, a veterinary pharmaceutical that was developed by MSD Animal Health (MSD). We manufacture this product and supply it to MSD as an active ingredient for veterinary pharmaceuticals.



ALTAIR<sup>®</sup>



ROUNDUP<sup>®</sup> MAXLOAD AL**I**I





### **Features of Our Business**



### **Business Results and Outlook**



In FY2015, sales of ALTAIR and Fluralaner remained steady. Regarding ROUNDUP, we developed sales for general household use.

### ΤΟΡΙΟΣ

### **Entering the Field of Veterinary Pharmaceuticals**

In conducting exploratory research on insecticides, we invented Fluralaner, a chemical compound that is effective as an ectoparasiticide for companion animals. We began to manufacture and supply this compound to veterinary pharmaceutical manufacturers, making our full-scale entry into the field of veterinary pharmaceuticals.

Fluralaner is an active ingredient of BRAVECTO a veterinary pharmaceutical that was developed by MSD. It is a new chemical compound with an isoxazoline skeleton, and exhibits a new action mechanism that is different from that of other conventional ectoparasiticides. In February 2014, the European Union (EU) permitted the marketing of BRAVECTO chewable tablet (an orally administered drug), and MSD started selling it in major European countries in April. In the United States, it was approved in May 2014 and began to be sold in June. In Japan, it was registered in May 2015 and launched in July. Currently, it is marketed in more than 60 countries worldwide. The superior features of this product include not only the immediate effects on major breeds of fleas and ticks on dogs, but also long-lasting effects which protect dogs from fleas and ticks for three



months (eight-week protection against brown dog ticks), which is far longer than existing products that normally need to be given every month. In addition, the EU permitted the marketing of BRAVECTO Spot-On (a transdermally administered drug) in May 2016. Unlike chewable tablet that was limited to use for dogs, BRAVECTO Spot-On is intended for both cats and dogs. MSD is working to receive marketing approval in other countries, such as the United States and Japan.

# Pharmaceuticals

We strive to develop better pharmaceuticals by making use of our accumulated technology. Our products help preserve precious lives and deliver smiles to people around the world.

### Private Drug Discovery

We first entered the pharmaceutical business in 1982. Since then, we have continued to tackle challenges in the R&D of innovative new drugs, making full use of our strategically developed chemical compound library, our cutting-edge evaluation functions, and our fine organic synthesis technologies.

### Finetech<sup>®</sup>

This business provides total support to customers for their R&D of active pharmaceutical ingredients (API). Specifically, we engage in the contracted development of manufacturing process in each one of the stages, from pre-clinical to commercial production stages, and the contracted manufacture of API and intermediates in compliance with GMP.

### **Main Products**

### Pitavastatin calcium (LIVALO®)

This is a statin agent that greatly reduces LDL cholesterol and causes fewer drug-interactions. It is distributed by Kowa Pharmaceutical Co. Ltd. in Japan. This agent is recognized as one of the "strong statins" in clinical practice. It has also been released in the United States, as well as Latin American, European, and Asian countries. There are plans to release it in other countries and territories in the future.

### Efonidipine hydrochloride (LANDEL®, FINTE®)

This is a dual type Ca antagonist that blocks not only L-type calcium channels, but also T-type channels. LANDEL is distributed by Zeria Pharmaceutical Co., Ltd. and Shionogi & Co., Ltd. in Japan, and FINTE® is distributed by Green Cross Co. in South Korea. This agent has shown to have a positive effect on hypertension and angina pectoris. In addition, the agent is expected to provide a renal-protective and cardio-protective benefits.

### Novel Agent under Development

### NIP-022 (platelet increasing agent)

This is orally administrable drug increases the platelet count by activating the thrombopoietin receptor, which is a hematopoietic factor, to accelerate platelet production. It has the potential to be a drug for treating every kind thrombocytopenia.

### NT-702 (asthma care, arteriosclerosis obliterans treatment agent)

This exhibits both a phosphodiesterase inhibitory effect and a thromboxane A2 synthetase inhibitory effect. It is expected to be used as a novel agent for asthma and intermittent claudication associated with peripheral arterial disease.

### NTC-801 (anti-arrhythmic agent)

This is a new antiarrhythmic agent that inhibits the acetylcholine-activated potassium channel current (IKACh). NTC-801 is expected to be used as an atrial selective agent for the treatment of atrial fibrillation because IKACh channels are apparent in the atrium but not in the ventricle.

### **Finetech Business**

### Manufacturing of API and intermediates (from pre-clinical to commercial production satages and manufacturing in compliance with GMP) We manufacture API and intermediates by establishing manufacturing methods that can be scaled up.

### Process research (route scouting, optimization and scale-up)

We establish production processes that can be scaled-up through quantitative reaction analysis and confirming the stability data of every process. We suggest cost-competitive synthesis routes by only disclosing the structural formula.

### **Supplying API of generics**

We develop and sell API capable of high levels of activity in small amounts, such as the prostaglandin (PG) class of ingredients and vitamin D3 (VD3), by making use of our accumulated technologies for handling high active API and our column equipment capable of high levels of refinement.



LIVALO<sup>®</sup>

### Features of Our Business



A Unique Business Model that Specializes in New Drug Discovery and the Manufacture of API without Sales Force

### **Business Results and Outlook**



In FY2015, the sales of LIVALO<sup>®</sup> for overseas markets remained strong, but conditions remained tough in the domestic market. On the other hand, the sales of Finetech were strong. We also had revenue from a lump-sum payment that resulted from the joint development and conclusion of a license agreement related to a platelet increasing agent (NIP-022).

### ΤΟΡΙΟΣ

### Joint Development of a Novel Platelet Increasing Agent

In October 2015, we entered into a co-development and license agreement on NIP-022, a novel platelet increasing agent that we discovered, with Yakult Honsha Co., Ltd. (hereafter, "Yakult Honsha"). In July 2016, Yakult Honsha began clinical trials on the agent. We are in charge of the development and manufacture of the API and other processes, and will proceed with the development of this agent jointly with Yakult Honsha.

### Joint Research of Novel Antifungal Drugs

In January 2016, we concluded a strategic research collaboration agreement with Shionogi & Co., Ltd. (hereafter, "Shionogi"). This agreement is aimed at discovering novel antifungal drug candidates. Among areas of infection medications, there is still a high level of medical needs that must be met in the area of antifungal therapeutic drugs, and more effective and safer drugs are demanded. Shionogi has strengths in small molecule drug discovery and focuses on the infectious disease area, while we are highly capable of conducting structure-activity relationship (SAR) study based on our sophisticated capabilities in the design and organic synthesis of small molecule compounds. In cooperating with Shionogi, we will bolster the synergies of the two companies' capabilities and strive to discover candidate compounds for the development of novel antifungal drugs.

# Chemicals

The development of products focused on the high-level customer needs is another important mission.

### Basic Chemicals

We provide products to meet a wide range of demands, focusing on melamine, sulfuric acid, nitric acid, ammonia and other heavy chemicals. We also provide high-purity chemicals for washing semiconductors.

### Fine Chemicals

This business focuses on environmental chemicals such as TEPIC<sup>®</sup>, a special epoxy compound for sealants, Melamine Cyanurate and PHOSMEL<sup>®</sup>, non-halogen flame retardants, phenylphosphonic acid, which is a surface modifier, and HI-LITE<sup>®</sup> sterilizing agent and disinfectant.

### New Products

To better meet customer needs, we are working to fully enhance our product lineup, which focuses on new grade TEPIC<sup>®</sup>.

### **Main Products**

### MELAMINE

This is widely used as an adhesive agent for plywood, laminated sheets, molded products, resin finish for fabric, paper and paint. It is highly aesthetic and offers a substantial level of quality.

### **High Purity Chemicals**

Our products used for semiconductors / LED require an extremely high level of purity. We provide sulfuric acid, nitric acid, and ammonia to customers in this industry, who hold our products in high regard.

### High-grade urea solution AdBlue®

This is a solution of urea in demineralized water used as an operating fluid in diesel-powered freight trucks to improve emissions. We have established and expanded our original supply system addressing customer needs.

### **FINEOXOCOL®**

This is our unique, highly branched, saturated fatty alcohols and acids with a long chain alkyl group consisting of carbon 16 to 20. It has been used for various esters, lubricants, cosmetics, and ink modifiers.

#### **TEPIC**<sup>®</sup>

This, Tris (2, 3-Epoxy propyl) Isocyanurate is a special tri-functional epoxy compound consisting of a triazine ring and three glycidyl groups. The triazine ring provides excellent outdoor durability due to its low UV absorption, while the glycidyl groups provide outstanding heat resistance by densely cross-linking with resins.

### **MELAMINE CYANYRATE (MC)**

This is the compound of melamine and iso cyanuric acid. We provide high quality product by integrated production from raw materials. MC is nitrogen compound, which offers superb thermal stability up to 300°C. It is used for various engineering plastics, such as nylon, as flame retardant or synergist. It also has exhibits outstanding flame retardation when used with flame retardants such as phosphorus systems or metal hydroxide, and has been added to various plastics.

#### **HI-LITE**®

Chlorinated isocyanulate is the main ingredient in this product, which is used for sterilization and disinfection of swimming pools and water purification tanks.

#### Nissan Reishi

Nissan Reishi is a safe Japanese-made health food created through the domestic processing of Reishi mushrooms grown in Japan.



Printed circuit board



LED bulb

### **Features of Our Business**

### Supplying Derivatives that Use Ammonia as Main Raw Material



### **Business Results and Outlook**



In FY2015, export sales of MELAMINE were brisk in Basic Chemicals dept. In Fine Chemicals dept., HI-LITE grew positively. In addition, a decline in oil prices contributed to the rise of the profit rate of the division.

### ΤΟΡΙΟΣ

#### **Ammonia Feedstock Change Project**

As a part of the structural reform of our ammonia business, we switched the feedstock for ammonia produced at Toyama Plant from naphtha to natural gas. We began producing ammonia from the new feedstock in August 2016. At Toyama Plant, we began producing ammonia by means of water electrolysis in 1928. We later introduced manufacturing methods featuring the use of coal, heavy oil, and crude oil in response to changes in the business environment over the years. To meet the rapid increase in demand for ammonia in the 1960s, we switched to a naphtha-based method in 1967 to increase the size of our facilities and streamline them.

In February 2015, we decided to switch the feedstock because the stable procurement of natural gas had become a real possibility. By using natural gas, the price of which fluctuates less than naphtha, we will try to generate stable income from ammonia and various derivatives such as urea, MELAMINE, and nitric acid.



# **Advanced Materials & Planning**

Tackling challenges in new fields with an "undaunted spirit"

Our mission is to create new materials and businesses that will be our pillars for future growth of Performance Materials and Life Sciences business domains. We work on developing new materials that meet market needs by making full use of our core technologies, fine organic synthesis, functional polymer design, ultra-fine particle control and biological evaluation. We also promote the collaboration between industry, government, and academia, such as alliances with distinguished companies and joint research with universities, to create actual demand early.

### **Main Products**

### Life Science Materials

#### Cell culture material

We offer the FCeM<sup>®</sup> series and SphereMax<sup>®</sup> as base materials for three-dimensional cell cultures. Used to culture cells in a three-dimensional state, these products can adjust cells efficiently while mimicking the in vivo environment.

The FCeM<sup>®</sup> series contains FP001, an additive for culture media whose main ingredient is gellan gum. It can disperse and suspend spheres (clumps of cells) while exhibiting the same level of viscosity as that of water. It has been adapted for the evaluation of anticancer drugs because it is capable of culturing large amounts of iPS / ES cells as well as cancer cells.

SphereMax<sup>®</sup> contains LA717 natural polymer, which is also used for food and pharmaceutical additives. Just like the FCeM<sup>®</sup> series, it allows for the low adhesion culture of cancer cells. Evenly dispersed spheres sink to the bottom, making it easy to collect the cultured cells. This makes the SphereMax<sup>®</sup> useful for sphere formation assay and 3D imaging analysis.

### **NANOFIBERGEL®**

This gelator comprises palmitic acid and dipeptide, and is friendly to people and the environment. It changes from a gel (solid) to sol (liquid) in response to stress. It can be prepared in different forms, such as a spray, cream, and stick. We offer this product as an agent for cosmetics, quasi-drugs, and pharmaceuticals.



### ECOPROMOTE® crystal nucleating agent for polylactate

It forms a stable crystal nucleus during the polylactate molding process to increase the speed of crystallization significantly. It produces fine, even crystals, helping to improve the molding cycle and enhance the heat resistance and transparency of molded products.

### Optical Materials

### SUNCONNECT®

Liquid organic-inorganic hybrid resin materials that exhibit high thermal stability and transparency. Suitable for imprinting methods, photo lithography, and other processes.

It can be applied to optical devices such as optical lens (camera module, heat-resistant and near-infrared transparent) and optical waveguide (optical interconnect).



FCeM<sup>®</sup> Series



Spray





Sticks

#### Progress in the Development of HYPERTECH®, a Functional Coating

We are working on the market development of HYPERTECH®, a functional coating that contains our proprietary multi-branched organic nanoparticles (hyperbranched polymers).

We have proceeded with the development of HYPERTECH® as follows:

- i. Antifouling hard coating material for films that offers superior abrasion resistance
- ii. Coating materials with ultra-high refractive index and low refractive index that can be applied in optics area
- iii. Printable electroless plating nucleating agents

And we have developed number of customers who use HYPERTECH® for smartphones, high-resolution TVs and other devices.

In response, we transferred this business to the Performance Materials Division, which shares our main customers, in April 2016 to further stimulate actual demand.



Application examples of HYPERTECH®

### ΤΟΡΙΟΣ

#### Development of prevelex<sup>™</sup>, a Material for Preventing the Adhesion of Biomolecules

Since 2011, we have been working to create novel life science materials by combining our core technologies for biological evaluation and functional polymer design. Through these efforts we have succeeded in developing a material for preventing the adhesion of biomolecules that can be applied in various fields, from

experiments and research to regenerative medicine. This material has the following features, and is currently being evaluated by customers.

- i. Ultra-thin film material with nanometer-level thickness, allowing for the easy coating of objects of various shapes
- ii. Can be coated without primer to PP, COP, PDMS and other base materials that is difficult to coat
- iii. Ensures a high level of safety and prevents the adhesion of biomolecules such as DNA as well as cell adhesion and protein adsorption

# Experiment on preventing platelet adhesion

(When prevelex<sup>™</sup> is not used)



(When prevelex™ is used) Significant reduction of platelet adhesion

### ΤΟΡΙΟΣ

#### **Development of an Organic Thin-film Solar Cell Material**

We are developing the hole collection layer of organic thin-film solar cells. The hole collection layer collects holes from excitons generated in the active layer, and then transports them to the cathode. At the same time, it blocks the inflow of electrons. It plays an important role in improving the power generation efficiency. We will accelerate market development by taking advantage of the following features of our material.

- i. Capable of forming highly flat thin films since it is a homogeneous solution
- ii. Allows for preparation at the HOMO level
- iii. Can be compatible with various printing methods



# **Research and Development**

We strive to further refine the core technology we have cultivated throughout our long history, and develop new products, technologies, and businesses.

### Chemical Research Laboratories

Chemical Research Laboratories is Nissan Chemical's core R&D site, and is responsible for our corporate research. It researches and develops agricultural chemicals and pharmaceuticals that utilize the fine organic synthesis technology we have cultivated over the years, research on company-wide processes, and material analysis research.

### **Major research contents**

- Discovery of agrochemicals and pharmaceuticals, and the development of agrochemical formulations and active
   pharmaceutical ingredients
- · Development of new organic materials and polymer materials
- · Process development of new products and candidates
- · Material analysis and computational science that support research

### Materials Research Laboratories

Materials Research Laboratories create highly unique new materials, allowing us to respond quickly to increasingly sophisticated and diverse market needs. At the same time, the laboratories focus their efforts on researching next-generation materials in an effort to create new markets.

#### **Major research contents**

· Material development based on technologies for the design, synthesis, and evaluation of functional polymers and composite materials

Sodegaura, Chiba

- · Development of new materials intended for new display technologies and semiconductor process technologies
- · Manufacturing research and the application development of materials such as inorganic particulates



**Biological Research Laboratories** 





Toyama, Toyama

#### Funabashi, Chiba

Biological Research Laboratories serve as a place for life science research, such as evaluation research related to the usefulness and safety of agricultural chemicals, pharmaceutical products, and medical materials.

#### Major research contents

- · Efficacy tests, safety tests, and residue tests of agrochemicals in greenhouses and on farmland
- Pharmacological tests, safety tests and pharmacokinetics tests of pharmaceuticals, ranging from those on the gene level to those based on pathological models
- Development of medical materials such as cell culture media, stem cell amplifiers, and coating materials for medical
   equipment



Shiraoka, Saitama



Funabashi, Chiba

### ΤΟΡΙΟΣ

#### Promotion of Industry-government-academia Collaborations

While we deepen our proprietary technologies, we also promote the creation of new materials and introduction of new technologies through industry-government-academia collaborations. As part of these activities, we participate in a project of the Japan Agency for Medical Research and Development (AMED), which was founded in April 2015, and are working on the development of a cell manufacturing and processing system for the industrialization of regenerative medicine. We are conducting joint development with Kyoto University, and have discovered a technology that leads to the low-cost manufacturing of iPS cells. We will continue contributing to the development of regenerative medicine while also proceeding with state-of-the-art research. In the area of collaboration between industry and academia, we have been involved in research through comprehensive collaboration

In the area of collaboration between industry and academia, we have been involved in research through comprehensive collaboration with Kyushu University since April 2006. This collaboration aims to create new materials through functionalization and application research, which is conducted by combining the seeds (materials) owned by us with advanced technologies owned by the university. In addition to the previously described efforts, we engage in R&D activities around the world. We collaborate with overseas universities and participate in an international consortium.



Collaboration with Kyushu University

### TOPICS

#### **Utilization of Intellectual Properties**

# Received the Minister of Economy, Trade and Industry Award at the fiscal 2016 Intellectual Property Achievement Awards.

We were selected for one of the fiscal 2016 Intellectual Property Achievement Awards\* under the Minister of Economy, Trade and Industry Award (Enterprises Excelling in Patent Utilization).

Technological innovations are growing increasingly sophisticated and diverse, and the protection of intellectual property rights is being strengthened globally. We recognize that it is important to quickly acquire the rights to the outcomes of R&D, apply them appropriately on a timely basis, carry out preliminary surveys, and confirm that we have not infringed upon the rights of others.

We will continue striving to integrate our business strategies, R&D strategies, and intellectual property strategies, aiming to create competitive new technologies and products and venture into new business domains.



Awarding ceremony

### ΤΟΡΙΟΣ

#### **R&D Expenses**

We consider R&D is the source of growth, and have intensively invested our management resources in R&D. The percentage of our expenses in Performance Materials and Life Sciences (agricultural chemicals and pharmaceuticals) is high, accounting for more than 85% of the total.



# Promotion of CSR

Our business activities are based on our corporate philosophy, which states that we contribute to society in harmony with the environment, based on our excellent technologies, products and services. Based on our recognition that CSR activities are meant for putting the corporate philosophy into practice, we reviewed our group's code of conduct and revised our basic CSR policies in April 2016. We have also set up a CSR Promotion Council, with the Corporate Planning Department serving as the secretariat. This council formulates action plans and checks activities on a regular basis. It reports the results of its activities to top management twice a year.

### **CSR Promotion System**



### **Our Commitment to and Communication with Stakeholders**



### Customers

We identify customer needs through sales activities, and work to improve our products and services.

### **Shareholders/ Investors**

At the general shareholders meeting, the president, who acts as the chairperson, gave explanations about a business report and business plan. We also hold an IR briefing meeting for institutional investors, analysts and the media every half year to explain the overall conditions of our business.

### **Employees**

Every year, the president visits offices, plants, and laboratories in Japan and overseas to deepen mutual understanding with employees.

### **Business Partners**

We promote supply chain management and check our partners' CSR initiatives as necessary.

### **Communities/ Society**

We interact with local communities through measures such as plant tours and visits to local elementary schools to give special classes.

# **Corporate Governance**

We think of corporate governance as a mechanism that ensures sound, efficient management to provide stakeholders with sustainable, long-term profits. Based on this idea, we strive to ensure management decisions are made promptly, and work to clarify the management responsibility and responsibility for executing operations. At the same time, we take initiatives for strengthening the management's monitoring function, compliance system, risk management system, and internal control system under our board meeting and board of corporate auditors, whose members include highly independent outside officers.

### **Our Corporate Governance System**

#### Execution and supervision of operations

We clarify the management's function for prompt decision-making and supervision and the function for executing operations, thereby strengthening both of functions. We also strive to improve management's capabilities for developing and implementing management strategies.

#### **Board Meeting**

Our board consists of nine members (including two outside directors), and meets once a month, in principle, to resolve important management matters. It also supervises the execution of operations by directors and executive officers.

#### **Internal Audit**

We have the Internal Audit Department, and conducts fair and independent internal audits in accordance with the Internal Auditing Regulations. Business activities are checked by the Accounting & Finance, Legal, Intellectual Property, and Environment, Safety & Quality Assurance Departments, with each applying its respective expertise.

### Audit by Corporate Auditors

Our board of corporate auditors consists of four auditors (including three outside corporate auditors). Corporate auditors audit the execution of operations by directors by participating in the board meetings and other important meetings in accordance with auditing plans formulated by the board of auditors. They also ensure the appropriate level of cooperation with stakeholders.

### Accounting Audit

We have appointed the Yaesu Audit Company as our accounting auditor. They audit the company and our domestic subsidiaries at the end of each fiscal year, and during the fiscal year when necessary.

### Support for outside directors and corporate auditors

The Corporate Planning Department supports outside directors by giving them prior explanations of the contents of the agenda and other matters to be discussed at the board meeting, enabling them to give effective advice on management policies and management improvement measures and supervise the management. For outside corporate auditors, we have appointed audit assistants in response to requests from them. Audit assistants are employees who help outside corporate auditors fulfill their duties efficiently and smoothly. They serve as coordinators for holding internal audits, board meetings, and other meetings, help outside corporate auditors conduct audits, and collect and provide information to them.



\*GCP : Standard for clinical trials of pharmaceutical products

### Number of Major Meetings and Attendances (FY2015)

Board Meeting	13 times	Board of Corporate Auditors' Meeting	12 times
Attendance of outside directors at board meetings	95.8%	Attendance of outside corporate auditors at board of auditors' meetings	100%
Attendance of outside corporate auditors at board meetings	97.4%		

# Compliance

We place emphasis on compliance in our management, reflecting our belief that compliance with laws and regulations and social norms is essential for the survival and development of any company. To this end, we actively promote compliance throughout the entire group, and have set up a Compliance Committee as the organization for maintaining and improving compliance. It is chaired by the president and consists of members that include external specialists.

### **Compliance Promotion Framework**



The Compliance Committee creates manuals, revises guidelines, and train employees. It also receives reports from each division / department chief, plant / laboratory chief, related committees, and presidents of subsidiaries. In addition, it periodically audits the state of compliance and provides recommendations for improvements when necessary.

The committee also specifies matters to be observed by Group's employees, and encourages them to carry out daily activities more faithfully than ever so that we are highly esteemed by society as a good corporate citizen.

### As a Corporate Citizen

Compliance with business laws Restrictions on acts of endowment and political donations Breaking off relations with antisocial forces Compliance with the Antimonopoly Act Ensuring fair transactions with suppliers and compliance with the Subcontract Act Prevention of unfair competition Compliance with laws and regulations related to security export control Compliance with laws and regulations related to import and export Prohibition of excessive entertainment and gift-giving Prohibition of bribery of foreign public officials Ensuring appropriate advertisement

### As a Public Company

Disclosure of management information Appropriate accounting

#### As a Manufacturer

Ensuring product safety Conserving environment Taking measures for process safety and disaster prevention

#### As Stakeholders of the Company

Prohibition of conflict of interest Appropriate use of the company's assets Prohibition of insider trading

#### As Members of the Workplace

Compliance with the rules of employment Respect for human rights and the prohibition of discrimination Prohibition of sexual harassment Protection of privacy Ensuring workplace health and safety Prohibition of political and religious activities

#### As Handlers of Business Information

Appropriate management of trade secrets Appropriate use of information systems Appropriate management of personal information Protection of intellectual properties

#### **Consultation Hotline**

We have a system that permits direct whistleblowing to the Compliance Committee.

When an employee discovers a compliance violation or potential compliance violation, they shall address the problem in normal operations, in principle, through measures that include reporting the matter to their superior. However, if

they think it is difficult to address the problem promptly and effectively, they can use the hotline to prevent compliance violations or resolve the problem early on. Whistleblowers can remain anonymous and if they state their name, we make sure that they are not disadvantaged by the use of the hotline.

Consultation Hatling Deports (Number)	FY2011	FY2012	FY2013	FY2014	FY2015
	0	0	2	1	1

# **Risk Management**

We have established risk management guidelines with basic rules on risk management to prevent the emergence of various risks to the Group, and minimize the damage and impact of these risks should they arise.

1. Ensuring the safety of human resources	4. Maintaining trust of stakeholders
2. Surviving as a company	5. Optimizing business opportunities and opportunities to make achievements and avoiding the loss of these opportunities
3. Sound maintenance of assets	6. Ensuring compliance and pursuing efficiency, accuracy and effectiveness in the execution of operations

### **Risk Management Framework**



We appoint risk managers to divisions, departments, plants, laboratories and group companies under the overall control of the Chief Risk Management Officer (CRO) appointed by the Board meeting, with the Corporate Planning Department serving as the Risk Management Office. At the Risk Management Meeting, which consists of the CRO, risk managers and the Risk Management Office, we identify and assess risks in individual organizations through cooperation with specialized committees such as the Compliance Committee. Based on the results of the identification and assessment, we examine the status of the implementation of countermeasures, strengthen systems for handling crises and emergencies and formulate a business continuity plan (BCP). In addition, we share the risk management information of the entire group through the annual plan, the annual review of risk management activities and reports from all organizations.

# Supply Chain Management

Before outsourcing an operation such as the manufacture of important raw materials, intermediates and products, we ask the potential contractor to answer a questionnaire on CSR. We give priority to companies which fulfill our standards when selecting business partners. We also conduct on-site audits of suppliers in Japan and overseas to check their initiatives for CSR activities in detail, with a particular focus on their activities related to the environment, health and safety (EHS) in our efforts to promote supply chain management. In addition, we have made it our policy not to use conflict minerals and raw materials containing such minerals related to inhumane armed groups in the Democratic Republic of the Congo and surrounding countries, both internally and in our supply chain.

# **Responsible Care Management**

Responsible Care (RC) activities aim to secure environment, health and safety (EHS) performance on a voluntary basis throughout the entire process, from the development of chemical substances, manufacture, distribution, use, final consumption and to disposal / recycle. These activities also serve as a form of communication with society through the announcement of their results. Chemical companies in more than 60 countries and regions are working on RC activities.

The global expansion of RC activities was triggered by the establishment of the International Council of Chemical Associations (ICCA) in 1989. In Japan, the Japan Responsible Care Council (JRCC) was established by the Japan Chemical Industry Association (JCIA) in 1995. We are one of the original members of JRCC. We have also signed the Responsible Care Global Charter, which was revised in 2014, and we are enhancing our efforts in RC activities.

### **Responsible Care Basic Policies**

We have set priority matters related to the EHS in all stages of our business activities as our basic policies on RC. We have fully shared these basic policies with all group companies.

- (1) Strive to ensure the continuous improvement of the EHS throughout the entire product lifecycle, from development all the way to the final disposal.
- (2) Manage business activities and prevent them from affecting people and the environment, giving consideration to the EHS when transporting, storage and disposing products.
- (3) Strive to develop products and technologies with a smaller environmental impact by considering the EHS aspects from R&D phase.
- (4) Promote greater resource conservation and energy conservation to reduce the amount of waste and effectively use of the waste.
- (5) Take note of the interest of administrative authorities and public interest concerning the impact of our products and operations on EHS, and strive to communicate with them to ensure their correct and full understanding by disclosing sufficient information.
- (6) Further enhance risk assessment and risk management based on scientific knowledge and strengthen proper management of chemical substances.
- (7) Observe laws and standards and promote voluntary initiatives to further improve the EHS performance.
- (8) Fulfill accountability to further meet the expectations of stakeholders in Japan and overseas concerning our activities related to EHS.

### **Nissan Chemical RC Management System**

To achieve our RC mid-term plan (see right-hand page), we have established RC management system based on ISO14001, an international standard on environmental management system. We carry out target management and continuous improvements based on PDCA. All of our plants, laboratories, business divisions and group companies set their own mid-term plans and annual targets to achieve the plans. We have set up the RC Committee as the organization in charge of promoting these activities. It is chaired by the head of Environment, Safety & Quality Assurance Department, with its members being the officer in charge of Environment, Safety & Quality Assurance Department and heads of the Production Technology Department, Personnel Department, Purchasing Department, business divisions, plants and laboratories. At the committee's annual meeting, the members discuss the results of all activities, and the RC targets for the next fiscal year. The results of the discussions are reported at the management meeting and subject to management review before the RC targets for the next fiscal year are determined. In addition, all plants have obtained third-party certificate under ISO14001. Business divisions, laboratories, and group companies confirm the effectiveness of their management systems through internal RC audits.



### **Promotion of the RC Mid-Term Plan (FY2016 – 2021)**

We have set Responsible Care mid-term plan, a six-year plan that aims to steadily promote activities related to environmental protection and countermeasures to address climate change, safety and disaster prevention, occupational safety and health, and chemical and product safety. We will take specific forms of action by drawing up a plan for each fiscal year based on the RC mid-term plan.

Responsible Care Code	Mid-term plan (FY2016-2021)	FY2016 plan
Environmental protection and countermeasures to address climate change	<ul> <li>Reducing the energy consumption rate (achieving a 20% reduction from the year 2011 level by 2021)</li> <li>Reducing GHG emissions and improving the GHG emission rate <ul> <li>Reducing the total amount of emissions during the period of the mid-term plan (2016 to 2021) by 100,000 tons compared to the period of the previous mid-term plan (2010 to 2015)</li> <li>Improving the emission rate by 20% from the FY2011 level by FY2021</li> </ul> </li> <li>Reducing industrial waste <ul> <li>Establishing a CSR supply chain management (green procurement) system</li> <li>Strengthening measures for protecting biodiversity</li> <li>Promoting the development and sales of environmentally friendly products</li> </ul> </li> </ul>	<ul> <li>Energy conservation through the renewal of aging facilities</li> <li>Promoting the conversion of waste solvents into forms of fuel</li> <li>Switching from naphtha to natural gas as the feedstock for ammonia (Reducing GHG emissions by 10,000 tons)</li> <li>Promoting the reuse and recycling of waste</li> <li>Conducting EHS audits of important business partners</li> <li>Continuous activities based on biodiversity action guidelines</li> <li>Promoting the sale of environmentally friendly products</li> </ul>
Safety and disaster prevention	<ul> <li>Creating a safety culture and improving the safety capabilities</li> <li>Improving the effectiveness of the prior assessment systems for manufacturing, construction work, and improving the effectiveness of research</li> </ul>	<ul> <li>Optimizing the method for evaluating the safety culture</li> <li>Enhancing the risk assessment performed in prior assessment</li> </ul>
Occupational safety and health	<ul> <li>Establishing an occupational safety and health management system based on ISO45001</li> <li>Achieving zero accidents that require staff time off from work</li> </ul>	<ul> <li>Improving occupational safety through equipment improvement</li> <li>Publishing an occupational safety newspaper</li> <li>Strengthening inspections for occupational safety and health in RC audits</li> </ul>
Chemicals and product safety	<ul> <li>Promoting risk-based management throughout the lifecycle of chemical substances</li> <li>Contributing to advanced research that examines the impact of chemical substances on human health and the environment</li> </ul>	<ul> <li>Creating internal standards for the risk assessment of chemical substances and safety measures based on safety data</li> <li>Promoting the disclosure of safety summaries of chemical products</li> <li>Participating in LRI activities organized by the Japan Chemical Industry Association</li> </ul>

### Assessment of the RC Mid-Term Plan (FY2013-2015)

Field	Mid-term plan (FY2013-2015)		Achievement assessment
Environmental protection	<ul> <li>Reduce the amount of energy consumption and improve energy consumption rate - Ensure 1% reduction from the previous year</li> </ul>	**	Although the amount of consumption increased, the energy consumption rate declined by 3% over three years
	<ul> <li>Achieve sustained reduction in the emissions of PRTR substances and hazardous substances</li> </ul>	**	Emissions remained unchanged
Process safety and	Continue to ensure safety and stable operations	☆☆☆	Safe, stable operations were maintained
disaster prevention	Eliminate serious accidents at plants related to waste water or exhaust gas	☆☆☆	There were no accidents related to waste water or exhaust gas
	Assess safety culture to for improve our process safety capability	☆☆☆	Safety culture was assessed at all plants
	Keep the number of environmental accidents down to zero	***	No environmental accidents occurred
Occupational safety and health	Achieve zero accidents that require staff time off from work	\$	There were four cases of accidents that require staff time off from work
	<ul> <li>Continuously achieved zero occupational accidents caused by violation of rules</li> </ul>	\$	There were three cases of occupational accidents caused by violation of rules
Chemicals and	Upload GPS/JIPS Safety Summary	☆☆☆	Started from FY2015
product safety	Respond to chemicals management regulations without delay	☆☆☆	We have established risk assessment methods and internal systems
Compliance	<ul> <li>Make sure to obtain and share information about legal regulations related to EHS</li> </ul>	***	We obtained the information without delay and made it available throughout the company
	<ul> <li>Promote understanding of information about laws and regulations related to EHS and ensure they are followed</li> </ul>	***	We held an internal on-site seminar on the internal rules There were no cases of serious accidents

### **Responsible Care Audits**

RC audit checks whether the RC activities in offices are carried out appropriately, checks whether the PDCA cycle is implemented without fail to clarify visible or potential problems related to the EHS and promotes improvements in response after clarifying the problems if there are any. The audit is conducted by Environment, Safety & Quality Assurance Department in accordance with the annual audit plan formulated at the beginning of each fiscal year, and in accordance with the RC audit guidelines. In FY2015, a total of 36 audits were conducted as planned, the details of which are summarized below.



Subject	Date	Subject	Date	Subject	Date
Sodegaura Plant	6/16,12/1	Nissei Corporation	7/22	NCA [U.S.A.]	11/12,11/13
Saitama Plant	7/8,1/19	Nissan Engineering, Ltd. Head Office	5/14	NCE [France]	9/3
Toyama Plant	6/12,12/21,12/22	Nissan Engineering, Ltd. Toyama	5/12	NCK [Korea]	11/26
Nagoya Plant	6/26,2/5	Nihon Hiryo Co., Ltd. Shinmachi Plant	6/23,11/20	NCT [Taiwan]	2/24
Onoda Plant	6/12,1/29	Nihon Hiryo Co., Ltd. Handa Plant	6/5,12/4		
Chemical Research Laboratories	7/10,2/10	Nissan Green & Landscape Co., Ltd.	5/19		
Materials Research Laboratories Funabashi	8/6,1/22	Environmental Technical Laboratories, Ltd.	5/26		
Materials Research Laboratories Toyama	8/4,2/16	Nissan Butsuryu Co., Ltd.	6/9,11/24,		
Materials Research Laboratories Sodegaura	7/16,2/18		11/25,12/9		
Biological Research Laboratories	8/21,2/3			•	

### **Environmental Load from Production Activities**

The figure below shows the inputs of raw materials, energy and water for production and emissions to the atmosphere, waters, soil and waste.



# Environment, Safety and Climate Change Strategy Capital Investment for the Environment and Safety and its Economic Effects

#### Investment:

We have made active capital investments such as changing the feedstock for manufacturing ammonia at the Toyama Plant in our efforts to reduce GHG emissions. We also renovate aging facilities in a well-planned manner to ensure safety, disaster prevention and maintain safe operations.



#### Capex for environment and safety [million yen]

#### **Economic effects:**

The measures we took for environmental protection, such as the reduction of steam at Toyama Plant and conversion of waste organic solvents into fuels at Onoda Plant, produced the following economic effects in FY2015.

Type of cost reduction	Amount [million yen]
Energy saving	173
Resource saving	49
Reuse and recycling	32

### **Energy Consumption and Energy Consumption Rate**

#### Production and research:

In accordance with the Act on the Rational Use of Energy, we collect data on the amount of energy consumed at all of our business establishments and submit this data to the national government, along with data on our energy consumption rate. The amount of energy we consumed in FY2015 increased from the previous fiscal year by approximately a crude oil equivalent of 7,000 kiloliters. This is attributed to an increase in the production volume of products that consume a lot of energy. We have a product matrix that covers a wide range of products, from commodity chemicals to agrochemicals, pharmaceuticals and functional products for electronic materials. This makes it difficult to evaluate the energy consumption rate based on the simple quantity of production, which is why we calculate it based on sales. Our energy consumption rate had been improving over the last several years, but it increased by 4.6% year on year in FY2015. This is thought to have been the result of reducing the prices of our main products that we produce at our plants.

#### Logistics:

As a cargo owner, we work together with Nissan Butsuryu Co., Ltd., a group company which handles our logistics operations, to promote the rational use of energy for transportation. In FY2015, our energy consumption rate improved from the previous fiscal year, while the amount of energy consumption in crude oil equivalent was almost unchanged from the previous fiscal year. We will continue striving to improve our energy consumption rate through measures such as promoting modal shifts, replacing vehicles with energy-saving and practicing eco-driving.

Energy consumption (crude oil equivalent 1,000kl)

and energy consumption index (FY2011 as a base of 100) in production and research



Energy consumption (left axis: crude oil equivalent 1,000kl) and energy consumption rate (right axis: kl/1 million ton kilo) in logistics



### **Reduction of Greenhouse Gas Emissions**

In accordance with the Act on Promotion of Global Warming Countermeasures, we collect data on the emissions of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases from all of our business establishments, including our plants, laboratories, and head office, and report this data to the national government. In FY2015, our CO<sub>2</sub> emissions increased from the previous fiscal year, but there was a decline in dinitrogen monoxide (nitrous oxide, or N<sub>2</sub>O) emissions, and overall greenhouse gas emissions remained almost unchanged from the previous fiscal year. However, the GHG emission rate, which is calculated as the ratio between emissions and sales (emission/sales), fell steadily over the course of five years from FY2011 to FY2015. Compared to FY2011, the GHG emission rate was reduced by 13% in FY2015.



Index of the GHG emission rate (FY2011 as 100)



### ΤΟΡΙΟΣ

### **Initiatives for Preventing Climate Change**

### 1. Toyama Plant: Switching from Naphtha to Natural Gas

In August 2016, the Toyama Plant switched from naphtha to natural gas as the feedstock used for ammonia. It will also consider switching to natural gas as the fuel for melamine furnaces and boilers. Natural gas does not generate any sulfur oxide or soot dust when it is burned. The amount of CO<sub>2</sub> and NOx (nitrogen oxide) emitted by natural gas is 30% to 40% less than that of petroleum, thereby helping to protect the global environment and prevent climate change.

#### 2. Onoda Plant: Reuse of Waste Organic Solvents

The Onoda Plant, which mainly produces organic fine chemicals, takes the waste organic solvents for column cleanup and the cleaning of pharmaceuticals and agrochemicals and uses them as boiler fuel. The waste organic solvents selected for reuse are those that pose no risk of generating toxic gases, such as SOx and NOx, and are free of chlorine. In the past, heavy oil was used as boiler fuel, and all waste organic solvents were incinerated by an industrial waste disposal operator. The reuse of solvents has not only reduced CO<sub>2</sub> emissions from the plant but also produced benefits in terms of cost.

We will continue to work patiently to tackle climate change.

### **Control of Exhaust Gas**

We control exhaust gas by observing the discharge standards stipulated in the Air Pollution Control Act and regulatory values based on agreements with local communities. We maintain the proper conditions in our desulfurization facilities and denitrification facilities in an effort to control the emissions of air pollutants such as sulfur oxide (SOx) and nitrogen oxide (NOx).

SOx emission / NOx emission [ton]



### **Reduction of Waste**

We thoroughly implement control measures to ensure the proper disposal of waste, while also striving to reduce industrial waste. Where we outsource waste treatment, we conduct on-site inspections of the waste disposer to confirm that our waste will be disposed properly, and check the travel distance of waste, destinations, and other details with their manifest. This approach enables us to monitor the entire process to the final disposal. Waste water discharged in the manufacturing process accounts for the majority of our industrial waste. We treat this waste internally by means of combustion. As for solid waste, we reuse sludge as feedstock for the base course material of roads and cement. We also promote the recycling of waste plastics in an effort to reduce the final disposal volume. The amount of waste generated began to rise in FY2014 due to an increase in the production volume of organic fine chemicals and flame retardants.

Waste volume [1,000 tons]





### **Reduction of Emissions of VOCs**

We regularly take initiatives to reduce emissions of volatile organic compounds (VOCs), which cause the formation of photochemical oxidants. We have not emitted any 1,2-Dichloroethane into the atmosphere since 2006 due to the introduction of VOC eliminators and other initiatives. Our emissions of other VOCs (benzene and formaldehyde) have also remained at around 25% of the level of 2006 and earlier.

Emissions of organic air pollutants [ton]



### Reduction of Emissions of PRTR Substances -

In FY2015, we emitted 62 chemical substances whose emissions are must be registered in accordance with the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR Iaw). The main substances emitted were formaldehyde and n-hexane. Formaldehyde is used as a reaction solvent, while n-hexane is found in naphtha, which is used as a fuel or feedstock.

Emissions of PRTR substances [ton]

Substance			Emissions				
Substance	FY2011	FY2012	FY2013	FY2014	FY2015		
Formaldehyde	2.4	0.5	0.5	0.4	0.5		
N-hexane	1.2	1.2	1.4	1.4	1.3		
Others	0.7	0.3	0.4	0.5	0.4		
Total	4.3	2.1	2.3	2.3	2.2		

We emit a total of 2.2 tons of these substances, including 1.7 tons to the atmosphere and 0.5 tons to the waters. Total emissions remained almost unchanged from the previous fiscal year, but we have continued to take steps to control them. We did not emit these substances into the soil.

Breakdown of emissions of PRTR substances [ton]



### **Control of Waste Water**

Our plants observe the discharge standards stipulated in the Water Pollution Control Act and regulatory values based on agreements with local communities. We monitor the chemical oxygen demand (COD) in waste water and the total nitrogen and total phosphorous concentration. There was an increase in the amount of COD discharged in the previous fiscal year due to the malfunction of water discharge facilities. However, improvements to the facilities helped return the amount to normal levels in FY2015. On the other hand, while there was a decrease in the amount of total nitrogen discharged in the previous fiscal year due to the shutdown of the amount of normal plant, the level returned to normal in FY2015.

COD (left axis) / Total phosphorus (left axis) / Total nitrogen (right axis) emission [ton]



### **Efficient Use of Water Resources**

At Nissan Chemical plants, we carry out exhaustive water-saving activities by observing environmental laws and regulations and cooperating with local organizations. These activities ensure that our operations do not place a burden on natural water circulation. We also clean waste water before returning it to nature to prevent negatively affecting the environment. The Toyama Plant is located in the city of Toyama at the base of Mount Tate, beneath which there is an abundance of groundwater. We have been promoting the rational use of groundwater as a member of the groundwater water use council in Toyama area, a local council that works to protect the local natural environment and promote the sound development of local communities. Prohibiting the use of groundwater for melting snow and the circulation of water in a cooling tower are some of the measures we employ for the rational use of groundwater. The Onoda Plant is located in Sanyo-Onoda City facing the Seto Inland Sea (Suonada). We have been taking measures to maintain the quality of waste water discharged from the plant in line with the Act on Special Measures concerning Conservation of the Environment of the Seto Inland Sea. We also assist local measures to address the potential shortage of industrial water.

Water input / Effluent [Million m<sup>3</sup>]



### **Biodiversity**

At Nissan Chemical, we are fully aware of the fact that biodiversity serves as an important foundation for sustainable society in the future. As a member of international society, we intend to promote activities that contribute to biodiversity by sharing roles and responsibilities with all the people and working together with them. For this purpose, we have established the Nissan Chemical Biodiversity Action Guidelines.

In addition, in October 2015 we participated in the Japan Business and Biodiversity Partnership to promote our initiatives for biodiversity.



#### **Nissan Chemical Biodiversity Action Guidelines**

Our corporate philosophy is to "contribute to society in harmony with the environment, based on our excellent technologies, products, and services." We at the Nissan Chemical Group engage in business activities that take into account biodiversity and help protect the global environment.

- We will understand, analyze, and evaluate the impact of our products on biodiversity throughout their lifecycle and strive to reduce the impact. We will work to preserve biodiversity and ensure the sustainable use of biological resources.
- We will strive to raise each employee's awareness of biodiversity through responsible care activities.
- We will continue to carry out social contribution activities that help preserve biodiversity and earn us the high esteem and trust of society.
- We will disclose the results of these initiatives to deepen the level of communication with society.

### ΤΟΡΙΟΣ

#### **Clean-up Activities**

The Nagoya Plant participates in clean-up activities organized by groups such as the Fujimae-Higata wo Mamoru Kai, an NPO engaged in activities for protecting Fujimae-Higata tidal flat. A tidal flat plays an important role as an ecosystem for food chains of living organisms and natural purification. The clean-up activities aim to maintain the tidal flat as an asset. Fujimae-Higata, a tidal flat in Nagoya Port, is one of the largest stopovers for migratory birds in Japan and a wetland registered under the Ramsar Convention.





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### ΤΟΡΙΟΣ

#### Nissan Bio-park Nishi-hongo

The development of the Nissan Bio-park Nishi-hongo, which is operated by the Toyama Plant and received the RC Grand Prix Award from the Japan Chemical Industry

Association in 2014, began about 10 years ago on a plot of approximately two hectares of land. It has turf areas, a wetland, a pond, and a creek. Firefly larvae were released in the park as part of the Hotaru Koi



Project, an initiative which aims to nurture Japanese fireflies.

The pond is used for breeding Japanese rice fish, an endangered species. It also serves as a balancing reservoir in the event of flooding. Tulips, sunflowers, Japanese cherry trees, Japanese beech trees, and other plants are planted in the park, which also has tables for cherry-blossom viewing. The Bio-park Support Team, which is made up of former employees of Nissan Chemical, is

working together with a group that manages the adjacent flower field to achieve the main objective of the Nissan Biopark Nishi-hongo, which is to "create spaces with biodiversity, mainly waterfront and



community-based forests, to provide places where employees of the plant and local residents can relax."

# Interview: Manager of Environment and Safety Section, Toyama Plant

At the Nissan Biopark Nishi-hongo of the Toyama Plant, former employees of Nissan Chemical who are qualified as naturalists, or nature guides certified by the prefectural government of Toyama, serve as guides for visitors to the park.



Manager of environment and safety section, Toyama Plant **Isao Hinata** 

The ground and square are open to the local residents, and families visit the park to view the cherry blossoms when they are in bloom. We hope to see the plant continue to coexist in harmony with local residents through these activities.

### Promotion of Development and Sales of Environmentally-Friendly Products and Green Products

At Nissan Chemical, we have been working on the development of environmentally-friendly products that diminish the effects of climate change and the environmental impact.

#### **Compact agrochemical products**

We provide lightweight, compact agrochemical products that contain high concentrations of active ingredients, such as granulated wettable powder. This enables us to make a number of contributions, such as reducing CO<sub>2</sub> emissions from packaging materials, waste, manufacturing, and transportation.

#### AdBlue<sup>®</sup>, a high-grade urea solution

AdBlue<sup>®</sup> is a high-grade urea solution that is used for the urea SCR system, a technology for purifying exhaust gas. AdBlue<sup>®</sup> helps reduce the environmental impact. When it is sprayed on exhaust gas from a diesel vehicle, nitrogen oxide (NOx) is decomposed into nitrogen and water, which are harmless. Demand for AdBlue<sup>®</sup> has been increasing year by year due to the tightening of regulations on automobile exhaust gas. This trend is expected to continue, so we have established bases for supplying this product in the Kanto, Hokkaido, Hokuriku, Tokai, and Kyushu areas.

# ECOPROMOTE<sup>®</sup>, nucleating agents for inducing the crystallization speed of PLA.

The ECOPROMOTE<sup>®</sup> is a series of additives for polylactic acid (PLA), a bioplastic derived from plants such as corn. While PLA is the leading biodegradable plastic in terms of practical application, its uses have been limited because it is plagued by problems with

molding processability and heat resistance. The ECOPROMOTE® has a function for promoting the crystallization growth of PLA, exhibits superior heat resistance, and can be molded quickly. Therefore, it is used widely for materials that need to be durable, such as electronic equipment materials and those of printers.



Composite printer

#### Nucleating agent for electroless plating

We promoted the application development of HYPERTECH<sup>®</sup>, a functional coating material that contains hyperbranched nano-particles. As a result, we have developed nucleating agents for electroless plating that allows for a more than 90% reduction of the amount of metal used for wiring the touch panels of smartphones, tablet PCs, and other devices. Metal wires are created by making a metal film covering the entire

substrate in a vacuum vessel, and then removing unwanted parts with acid. More than 90% of the metal is removed in this process.

HYPERTECH® makes it possible to draw wiring patterns, with the metal adhering to only the drawn lines. This in turn helps to minimize the area covered with metal plating.



Touch panel

# Safety and Disaster Prevention, Occupational Safety and Health Safety and Disaster Prevention

In FY2015, we thoroughly carried out pre-manufacturing evaluations, process risk predictions, and facility risk predictions, aiming to ensure safety, achieve stable operations, and improve our process safety capability. As a result, there were no fire, explosion, and leakage accidents. To maintain this zero serious accident level, we began to consider the idea of assessing the safety culture of plants in FY2014, and started carrying out full scale evaluations at all of our plants in FY2015. As a result, important issues, such as the communication gap between the management team, managers, and workers, were identified. Moving forward, we will strive to overcome these issues and foster a safety culture at all of our plants. We will also extend these evaluations to laboratories and affiliates in FY2016. Our plants, laboratories, and affiliates carry out various drills and training every year, such as comprehensive disaster drills, earthquake drills, initial fire-fighting drills, and communication and reporting training. These drills and training sessions all take into the characteristics of the location and region, and are designed to make us ready to respond to emergencies or accidents in a reliable manner.



Disaster drill at petrochemical complex

### ΤΟΡΙΟΣ

#### **Safety Training Center**

We have established a Safety Training Center in the Toyama Plant. At this facility, employees whose length of service is ten years or shorter learn how to safely conduct work related to machines, electricity, and instrumentation. Trainees take part in simulations in which they are sandwiched and caught in machines, and receive instructions on how to wear and use protective gear properly and other safety matters. The Safety Training Center also accepts trainees from other plants, thereby helping to raise the level of safety awareness of the entire company.



### **Occupational Safety and Health**

In regards to occupational safety and health, we make continuous improvements by implementing a PDCA cycle in our RC management system. This system helps to prevent work accidents, promote good health of staff, and build a comfortable workplace environment, supporting our efforts to improve the level of safety and health at the individual business locations. At locations where work accidents occurred, we thoroughly investigate the causes, implement or plan provisional or permanent measures, and submit a report to the Environment, Safety & Quality Assurance Department and the Personnel Department as the following example. The Environment, Safety & Quality Assurance Department sends the report to all business locations to help prevent the occurrence of similar accidents with the protection of the personal information of the accident victim(s).





### Safety Results

In FY2015, there were four cases of accidents that require staff time off from work and six cases of accidents that does not require staff time off from work. The number of accidents requiring staff time off from work increased from the previous fiscal year. Unfortunately, the frequency rate has also worsened for two consecutive years. The result comes from insufficient risk assessment of potential hazards and the increased numbers of falls attributed to old age of victims were especially prominent. We will make sure to perform risk assessments and make risk predictions before doing work, taking into account aged workers, and engage in safety activities further, aiming to achieve zero accidents.

2.0 1.5 1.15 1.0 05 0.00 0.00 0.43 0.36 0.37 0.37 0.0 2010 2011 2012 (FY) 2006 2007 2008 2009 2013 2014 2015 Nissan Chemical Chemical Industry Lost-work time severity rate [%] 0.20 0.15 0.10 0.013 0.029 0.05 0.028 0 006 0.000 0.000 0.000 0.000 0 004 0.000 0.00 2006 2007 2008 2009 2010 2011 2012 2013 2014 (FY) 2015 Nissan Chemical Chemical Industry

Lost-work time accidents frequency rate [%]

# **Chemicals and Product Safety**

### **Chemicals Management**

To achieve the 2020 targets\*1 on which agreement was reached at the World Summit on Sustainable Development (WSSD) in 2002, the Strategic Approach to International Chemicals Management (SAICM) for promoting risk reduction based on scientific risk assessment, collection and provision of information, and other measures were adopted at the International Conference on Chemicals Management (ICCM) in 2006. At Nissan Chemical, we strive to minimize the negative impact of chemical products on people's health and the environment during their lifecycle in line with the domestic SAICM implementation plan.

\*1: "... aiming to achieve, by 2020, that chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment ..."

### **Risk Assessment in Product Lifecycle**

We perform a risk assessment (prior assessment) of each step in handling chemical products, such as the research and development, manufacture, sales, and revision. The assessment of risks to human health and the environment in the value chain is based on data performed by the Biological Research Laboratories, either on its own or by outsourcing it, safety test data obtained from results of searching external databases such as literature, and checking things such as data on physicochemical properties and work environment conditions. Based on the results of risk assessment, we avoid using chemicals of concern and study safe alternatives. These results are reported to top management and made known to all the necessary people in the company. The results are also made known to people in the value chain by means such as technology transfer documents and safety data sheets.

For our GPS\*2/ JIPS\*3 activities, which are promoted by ICCA and JCIA, we conduct risk assessments of our chemical products and provide an overview of appropriate management based on risks and safety information in the GPS/JIPS Safety Summary. This information is disclosed and made available to the public. We also participate in LRI\*4, an international initiative promoted by JCIA that seeks to provide long-term support for research on the impact of chemicals on human health and the environment. The activities we engage in aim to advance research on the assessment of risks to human health and the environment.

\*2 : Global Product Strategy \*3 : Japan Initiative of Product Stewardship \*4 : Long-Range Research Initiative

#### Main Categories for Risk Assessment

- 1 Meeting laws, regulations, agreements
- 2 Chemical material safety, impact on human health and the environment
- 3 Occupational safety and health for workers
- 4 Safety of facilities and for operations
- 5 Product safety and environmental impact
- IOI NISK ASSESSMENT
- 6 Logistics safety and stability
- 7 Reduction of disposal amount
- 8 Quality assurance
- 9 Environmental and safety aspects for commissioning, purchasing, and sales

#### Prior risk assessment results

	Stage	Department Responsible for Assessment	FY2013	FY2014	FY2015
Res Dev	earch and elopment	Laboratories	16	31	18
Indus	strialization Test	Plants (Technical)	14	2	12
Man	ufacturing	Plants (Manufacturing)	110	96	116

### **Considerations for Animal Testing**

Various forms of biological assessments are needed for the research and development of agrochemicals, pharmaceuticals, medical materials, and chemical materials that are beneficial for society. It is difficult to perform this research without using laboratory animals when conducting tests. In regards to animal testing, our Biological Research Laboratories have established rules in accordance with laws and regulations, such as the Act on Welfare and Management of Animals, and the basic 3R principles (Replacement, Reduction, and Refinement). Working in line with these rules, the Animal Experiment Committee decides whether to conduct animal testing and checks how the tests are performed to ensure that animal testing is conducted appropriately, and that proper consideration is given to the welfare of animals.

### ΤΟΡΙΟΣ

#### **Chemical Safety Evaluation**

The Safety Research Department evaluates the safety of materials and intermediates used for products and processes, and provides safety information, thereby ensuring product safety and occupational safety. It evaluates the health and environmental hazards using animals, bacteria, aquatic organisms, and other creatures. It makes use of the results of the evaluations for appropriate risk control in the respective phases of research and development, industrial feasibility tests, and manufacturing. At the same time, it makes daily efforts to secure the safety of products so that customers can feel safe using them.



# **Relationships with Customers**

### **Quality Policy and Quality Targets**

Our quality policy is providing products and services that satisfy customers. Under this policy, we set mid-term quality targets and implement yearly schedules along with the PDCA cycle in an ongoing effort to improve our management system and operations every year.

Moving forward, we will continue to improve our capability of meeting market needs that are becoming more diverse and complex. We will thereby develop ourselves further as a company that contributes to society.



### Nissan Chemical Quality Management System

Our quality assurance system is based on quality ISO at each plant. The system is held in high regard by our customers because it allows for the provision of high-quality products and services in Japan and other countries.

We have set up a Quality Assurance Committee that promotes quality assurance activities. It is chaired by the head of the Environment, Safety & Quality Assurance Department, and consists of the officer in charge of the Environment, Safety & Quality Assurance Department and the heads of Production Technology Department, Purchasing Department, all the business departments, and all the offices. The committee meets regularly every year.

The matters reported during the committee meeting are the results of activities, audits, improvements made in response to audit results, information about complaints, and improvements made in response to the complaints at Nissan Chemical and affiliates in the fiscal year under review. The members also discuss action policies related to quality assurance and other items for the following fiscal year. The results of the discussions are reported at the management meeting and subject to management review before the quality targets for the following fiscal year are determined.

In addition, all of our plants have obtained certification under ISO9001 (QMS), an international standard on quality management system. They each maintain and update the certificate 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 customer demands throughout product's lifecycle from development, commercialization to the use of customers.

We have a corporate network that makes us promptly collect customer opinions concerning products (complaints, product liability accident information, etc.), evaluate them and take corrective actions if necessary.



### Quality Assurance Activities at Each Stage

### ΤΟΡΙΟΣ

### Acquisition of NSF/ANSI-60\* Certification

We have obtained the NSF/ANSI-60 certification for HI-LITE® (trichloroisocyanuric acid, dichloroisocyanuric acid), which is manufactured at our Toyama Plant.

NSF/ANSI-60 is a standard for chemicals that are intentionally added to drinking water. It is a standard under which certification is granted by the NSF International of the United States. NSF International was established to create standards and requirements for maintaining good hygiene in places such as kitchens in the restaurant industry. NSF/ANSI-60 has been expanding globally and is widely recognized all over the world as well as in the United States. The acquisition of NSF/ANSI-60 certification is essential for supplying HI-LITE® to manufacturers of antimicrobials to prevent epidemics that may be caused by drinking water in areas with poor hygiene control. It is believed that acquiring this certification will develop a new market of antimicrobials for drinking water, in addition to markets of antimicrobials for swimming pools, SPA, and water-purifier tanks for which they were mainly used. We will continue to make further improvements together with our plants to provide customers with safer products that offer a higher level of quality.



\*NSF is an independent international organization involved in the development of standards, product certifications, tests, audits, educations, and the provision of risk management services related to public health and the environment. The NSF certification mark on a product signifies that the product complies with all standard requirements. NSF periodically conducts unannounced inspections and product testing to verify that the product continues to comply with the standard.

# **Relationships with Employees**

In the mid-term business plan "Vista2021," transforming into an organization where excellent challengers are fostered and utilizing the ideas of diverse range of individuals are described as the way our group should be. To bring these situations about, we intend to tackle a range of initiatives, such as the exchange of personnel between departments and the promotion of diversity. Also we will continue to introduce systems for creating pleasant work environments. In FY2015, we provided the Self-Care Training to all employees as a mental health measure. We will continue these initiatives in our efforts to ensure the sustainable growth of our employees and the company.

### **Fair Personnel Evaluation**

Our personnel system is a structure that, through the interactive communication (dialogue) with their superiors, staff as an independent individual can work vibrantly with high motivation, utilizing their creativity while feeling their own growth toward the ideal picture of who they want to be. We strive to improve the transparency and persuasiveness of our personnel evaluation to make it fair, and ensure that it better reflects the achievements and contributions of employees.

### **Respect for Diversity, Personal Characteristics and Belief of Individuals**

At Nissan Chemical, a diverse range of individuals have been actively contributing to the group with their excellent talents in a wide range of fields irrespective of age, gender, and nationality. We intend to continue to promote the diversity of individuals. One thing that we are proud of is our high employee retention rate. We believe that our workplace environment allows each individual employee to play an active part.

### Human Resource Development

We believe that the essence of human resource development lies in having each individual employee continue to improve themselves aiming to have a further personal growth. Based on this belief, we have introduced training programs intended for employees who desire to learn new things and develop as individuals.

### **Creation of Comfortable Workplace**

We have introduced a wide variety of systems that enable employees to work in a highly productive manner and achieve a good work-life balance. In recent years we have maintained a high rate of paid-leave use of more than 70%. In addition, we implement No Overtime Day and other measures to raise employee awareness toward work efficiency and help create a comfortable workplace.

### Labor-Management Relationship Based on Open Dialogue and Mutual Understanding

Nissan Chemical and the Nissan Chemical Labor Union have built a good relationship based on mutual understanding and trust. They strive to improve labor conditions as good partners to the management by taking various measures, such as holding periodic meetings for reporting business results and initiatives for better work-life balance. In FY2015, a meeting for exchanging opinions about employees' health problems with the health insurance union also began to be held on a regular basis.



A corporate officer explains new business plans at the union meeting

### **Self-Care Training for Mental Health**

Self-care refers to the actions that individuals take to maintain and improve their health on their own. We support the self-care of employees by providing training which helps them acquire basic knowledge about stress and learn skills for coping with stress. During the training, employees reflect on their own stressful experiences and learn how to change the ways they thinking or perceive things in order to cope with stress appropriately.



Self-Care Training

### **Training Programs**

Name	Content
New Employee Training	Trainees learn the importance of thinking and acting on their own as the first step for developing their careers.
Training for Employees in the Third Year after Entering Company	Trainees learn the importance of motivating themselves and how to remain highly motivated to continue tackling challenges.
Pre-Promotion Training	This training is aimed at improving the essential capabilities for setting agendas and formulating strategies. Trainees are made aware of their roles and obligations as leaders who are responsible for the next generation, and formulate action plans for achieving visions.
Training for Improving On-Site Capabilities	This training is aimed at improving the communication abilities of trainees. Trainees talk about the issues they faced at work sites, and seek solutions for these issues together in order to obtain the insight they need.
Studying Overseas	This program is aimed at developing and securing individuals who can create new value and operate businesses globally. Trainees are sent to overseas language schools to help accelerate process of making individuals in the company more globally-minded.
Evaluator Training	Trainees confirm the content of evaluation and learn the basics of personnel evaluation, methods for competency evaluation and communication methods.
Coaching Skills Training	Trainees acquire communication skills for encouraging people to act on their own.
Business Improvement Training	This training is aimed at clarifying the scope of business assignments, clarifying roles, improving communication skills and the capacity to control motivation.
Correspondence Course	This is a tool for helping each employee formulate their career plan with a vision and working towards self-actualization.
Strategic OJT	Superiors provide OJT face-to-face with their subordinates, aiming to create an organization that develops individuals and where people develop themselves. This training aims to improve the ability to develop individuals and ability to handle businesses.



Pre-Promotion Training



Coaching Skills Training

### **Awards Program**

Every year we grant awards to employees who have made beneficial inventions, devised improvement measures, or made remarkable achievements and contributions. Regarding intellectual properties, we also reward excellent inventions selected from among patent-pending inventions at an early stage in an effort to create greater incentive for R&D, discover excellent inventions and improve upon their quality and creativity.

Name	Presenter	Content
Central Awards	President and CEO	Commend employees who have made beneficial inventions,
Division Awards	Head of each division	devised improvement measures, or made remarkable
Office Awards	Head of each office	achievements and contributions
Rewards for Excellent	Officer in charge of Intellectual	Reward excellent inventions at an early stage to promote the
Inventions	Property Department	improvement of R&D capabilities



Central Awards presentation ceremony

### Systems for Promoting a Good Work-Life Balance

Name	Content
Flextime	This system has been introduced at the head office and laboratories.
Childcare Leave	If certain requirements are fulfilled, an employee may take childcare leave until their child is 1.5 years old or until the first April 20 after the child's first birthday.
Paternity Leave	A male employee whose spouse gave birth to a child may take up to 7 days of paternity leave (paid leave) within 8 weeks of the child's birth.
Nursing Care Leave	An employee may use up to 20 days per year of annual leave which has been saved up for childcare or spousal care and which is no longer valid.
Shorter Working Hours	Specified working hours may be shortened by units of 30 minutes and by up to 120 minutes for looking after children in third grade (elementary school) or younger.
Half-day Leave	An employee may take annual leave by units of half days, with an upper limit of 30 times per year.
Planned Leave	We recommend that 2 days of company-wide planned leave and 3 days of individually planned leave be taken every year.
Annual Leave Accumulation	An employee may save up a maximum of 40 days of annual leave that are invalid and use them as medical leave, leave for their own sickness, leave to conduct a complete medical checkup, leave to look after elderly or sick family members, or for other similar purposes.
Refreshment Leave	An employee may take 10 consecutive days of leave (paid leave) within 1 year after becoming 50 years old. Financial aid is also granted.
Re-employment Refreshment Leave	An employee may take 3 consecutive days of leave (paid leave) within 1 month before or after their mandatory retirement.

# **Relationships with Society**

We recognize that bringing about a sustainable society is essential for the growth and development of companies. As a corporate citizen, we engage in various social contribution activities through our products and services, and provide new values for helping to enrich people's lives.

### **Support for the Next Generation**



In FY2015, we became involved with Tobitate! (Leap for Tomorrow) Young Ambassador Program, a joint government-industry project for supporting students who wish to study overseas. This program is aimed at fostering the individuals society seeks, mainly in the industrial world, and globally competitive individuals who will

demonstrate their capabilities on the world stage in the future. Japanese companies make donations and regularly cooperate with the selection of students and other processes as judges to send high school and university students, who are the potential future leaders of Japan, to various parts of the world. Through this project, we will continue to contribute to the development of Japanese industry.

In addition, Chemical Research Laboratories and Materials Research Laboratories send their staff members to local elementary schools to give special classes aimed at supporting science education. In FY2015, they visited three schools in the period from November to January. Hoping to raise children's interest in chemistry, they selected familiar themes and conducted two experiments, "Dry ice magic" and "Let's make micro-capsules."



Delivery class

### Welfare Fund

We have been engaged in welfare fund activities since 1997 as a part of our activities for contributing to local communities. Employees save a certain amount of money from their monthly salaries, to which an equal amount of money is added by the company. The money collected this way is used to support the welfare of local communities.

These activities are carried out individually at the head office and individual offices, plants, laboratories, and group companies. They are also conducted as joint projects. There are cases where staff members visit welfare facilities and ask them what items they need before considering what to donate. Overall, the activities are carried out in a community-based manner.



Received a certificate of appreciation

### **Industry Awards**

To support the development of synthetic organic chemistry, we established the Nissan Chemical Industries Award for Novel Reaction & Method in FY2009 as an award presented by the Society of Synthetic Organic Chemistry, Japan. This award is granted to researchers who have made creative, excellent achievements in research related to novel reactions and methods. The research by research associate professor Yoshiaki Nishibayashi of the University of Tokyo, who is the FY2015 recipient of the award, is highly acclaimed in Japan and other countries as a creative research that will have an impact not only on organic synthetic chemistry, but also related fields such as metalorganic chemistry, complex chemistry and catalytic chemistry.

### Interaction with Local Residents

We hold plant tours and explanatory meetings on a regular basis for local residents and schools. During these meetings we explain our initiatives for disaster prevention and environmental protection in an effort to show them that the plants are safe and secure. We also participate in local beautification activities such as cleaning of public roads around the plants and nearby stations, and activities for planting flowers together with local residents. The Biological Research Laboratories hold the Harvest Festival and Memorial Service for Living Organisms in November every year. This event is for paying respects to insects and laboratory animals that were sacrificed in the research and development of agrochemicals and pharmaceuticals. We invite local residents to this event to make it an opportunity so that they can better understand what kind of facility the Biological Research Laboratories is.



A tour of the Biological Research Laboratories

# **Information Disclosure**

We have formulated a Disclosure Policy and disclose information in accordance with the rules on timely disclosure established by the Tokyo Stock Exchange, Inc., on which our shares are listed. In addition, we endeavor to disclose company information other than that which is required under the aforementioned rules on timely disclosure, including presentation materials used in company briefing sessions, as proactively and impartially as possible on our website and through other media outlets.



### **IR Briefing Meeting**

We hold an IR briefing meeting for institutional investors, analysts, and the media every half year to explain the overall conditions of our business. This meeting is attended by the officer in charge of IR and the managers responsible from individual divisions. We also hold tours of our facilities for institutional investors and analysts as needed so that they can see our work sites in person and better understand our production and research.

In addition, every year the officer in charge of IR visits overseas investors and participates in conferences in Japan and other countries hosted by securities companies. In FY2015, the officer visited Europe, the United States, and Asian countries, and our positive attitude towards overseas IR activities was highly regarded.

We publish news releases, financial results, and materials for briefing sessions in Japanese and English, in principle, aiming to disclose information more promptly and fairly to investors in Japan and overseas.

### **Disclosure of Product SDS**

To ensure our chemical products are used safely, we provide customers with safety data sheets (SDSs) of all products. Customers and users can download the SDSs for all agrochemicals from our website. Our employees can obtain product information, including information about their risks and hazards, laws and regulations, transportation, storage, and methods of disposal, from our internal SDS database.

### **Disclosure of GPS / JIPS Safety Summaries**

We participate in the Global Product Strategy (GPS) / Japan Initiative of Product Stewardship (JIPS) activities that are promoted by the International Council of Chemical Associations (ICCA) and the Japan Chemical Industry Association (JCIA). In these activities, companies assess the risk of chemical products, manage them properly, compile their safety information in the GPS / JIPS Safety Summary, and make it available to the public, including their customers. The disclosure of this information helps to minimize the risks of chemical substances throughout the entire supply chain.

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# Financial Section Financial Review

Financial Review of the Year Ended March 31, 2016

### Overview

The domestic economy slowly recovered in the year ended March 31, 2016 (from April 1, 2015 to March 31, 2016). However, lower individual consumption, the stagnation of economic growth in China, and the economic slowdown in emerging countries threaten the future of the global economy.

In our group business, the profitability of Chemicals Segment improved, driven by the lower prices of raw fuels, but there was also a decrease in domestic demand. In the Performance Materials Segment, display materials have continued to grow due in large part to products for smartphones. In the Agricultural Chemicals Segment, both herbicides and Fluralaner both helped to boost profit, while in the Pharmaceutical Segment, the domestic sales of "LIVALO" (anti-cholesterol drug) were adversely affected by generic medicines.

#### **Operating Results**

As a result of previously mentioned factors, the sales for this period was 176,894 million yen (an increase of 5,688 million yen from the same period of the previous year). Operating income was 28,606 million yen (an increase of 3,258 million yen), and ordinary income was 29,531 million yen (an increase of 3,140 million yen). Net income attributable to owners of parent was 22,350 million yen (an increase of 4,151 million yen).

#### **Financial Position**

Due to the increase of cash and deposits, assets as of March 31, 2016 were 228,169 million yen (an increase of 4,314 million yen from the previous year).

While income taxes payable increased due to the decrease in long-term loans payable, total liabilities as of March 31, 2016 were

#### Operating Income (Millions of Yen)



#### Net Income per Share (Yen)



#### Total Assets (Millions of Yen)



71,244 million yen (a decrease of 1,346 million yen). Net assets as of March 31, 2016 were 156,924 million yen (an increase of 5,660 million yen).

As a result of these factors, equity ratio was 68.1%, represent-ing an increase of 1.2% from the previous year.

#### **Position of Cash Flow**

Net cash provided by operating activities for the year ended March 31, 2016 was 29,989 million yen (20,452 million yen for the previous year) after deducting income taxes paid from income before income taxes and non-controlling interests, depreciation, and gain and loss on working capital.

Due to the investment on plant and equipment, net cash used in investing activities for the year ended March 31, 2016 was 8,416 million yen (8,076 million yen).

With the purchase of treasury shares, cash dividends paid and repayment of long- term loans payable, net cash used in financing activities for the year ended March 31, 2016 was 17,317 million yen (12,127 million yen).

As a result of these factors, cash and cash equivalents at the end of this term were 35,335 million yen, reflecting the negative 324 million yen effect of exchange rate changes and the 61 million yen increase from newly consolidated subsidiaries (31,343 million yen). Therefore, cash and cash equivalents at the end of this period increased 3,992 million yen when compared to the previous year.



#### Dividends per Share (Yen)







# **Consolidated Balance Sheets**

For FY2015 and FY2014

	(Millions of Yen)		(Thousands of U.S. dollars)	
Assets	FY2015	FY2014	FY2015	
Current assets				
Cash and deposits	¥ 35,335	¥ 31,343	\$ 313,559	
Notes and accounts receivable-trade	57,606	58,133	511,190	
Merchandise and finished goods	30,198	28,123	267,974	
Work in process	43	59	382	
Raw materials and supplies	8,266	7,885	73,352	
Accounts receivable-other	4,726	2,097	41,938	
Short-term loans receivable	1,039	841	9,220	
Deferred tax assets	2,968	3,102	26,338	
Other	2,030	1,890	18,014	
Allowance for doubtful accounts	(34)	(29)	(302)	
Total current assets	142,181	133,448	1,261,700	
Non-current assets				
Property, plant and equipment				
Buildings and structures	59,662	58,217	529,435	
Accumulated depreciation and impairment loss	(37,027)	(35,514)	(328,574)	
Buildings and structures, net	22,635	22,702	200,861	
Machinery, equipment and vehicles	116,267	114,888	1,031,742	
Accumulated depreciation and impairment loss	(107,181)	(104,548)	(951,114)	
Machinery, equipment and vehicles, net	9,086	10,339	80,628	
Tools, furniture and fixtures	33,828	30,704	300,186	
Accumulated depreciation and impairment loss	(28,819)	(26,876)	(255,737)	
Tools, furniture and fixtures, net	5,008	3,828	44,441	
Land	9,195	9,318	81,596	
Leased assets	116	225	1,029	
Accumulated depreciation	(87)	(150)	(772)	
Leased assets, net	28	74	248	
Construction in progress	1,506	864	13,364	
Total property, plant and equipment	47,461	47,128	421,164	
Intangible assets				
Goodwill	2	4	18	
Software	476	308	4,224	
Other	424	361	3,763	
Total intangible assets	903	674	8,013	
Investments and other assets				
Investment securities	33,251	38,711	295,066	
Deferred tax assets	99	52	879	
Net defined benefit asset	2,086	2,064	18,511	
Other	2,354	1,962	20,889	
Allowance for doubtful accounts	(167)	(187)	(1,482)	
Total investments and other assets	37,623	42,603	333,863	
Total non-current assets	85,988	90,406	763,049	
Total assets	¥ 228,169	¥ 223,854	\$ 2,024,749	

	(Millions	(Millions of Yen)		
Liabilities	FY2015	FY2014	FY2015	
Current liabilities				
Notes and accounts payable-trade	¥ 15,350	¥ 15,077	\$ 136,214	
Short-term loans payable	22,938	22,951	203,550	
Current portion of long-term loans payable	3,060	3,090	27,154	
Income taxes payable	4,576	3,807	40,607	
Provision for bonuses	1,874	1,827	16,630	
Provision for directors' bonuses	21	24	186	
Provision for environmental measures	350	315	3,106	
Other	9,765	8,940	86,654	
Total current liabilities	57,937	56,034	514,127	
Non-current liabilities				
Long-term loans payable	7,100	9,060	63,005	
Deferred tax liabilities	3,095	4,621	27,465	
Provision for business structure improvement	680	704	6,034	
Provision for loss on business of subsidiaries and associates	309	-	2,742	
Net defined benefit liability	102	174	905	
Other	2,020	1,997	17,925	
Total non-current liabilities	13,307	16,556	118,085	
Total liabilities	71,244	72,590	632,212	
Net assets				
Shareholders' equity				
Capital stock	18,942	18,942	168,089	
Capital surplus	13,611	13,611	120,783	
Retained earnings	115,878	105,602	1,028,290	
Treasury shares	(4,281)	(584)	(37,989)	
Total Shareholders' equity	144,151	137,572	1,279,182	
Accumulated other comprehensive income				
Valuation difference on available-for-sale securities	10,515	10,676	93,309	
Foreign currency translation adjustment	171	894	1,517	
Remeasurements of defined benefit plans	554	639	4,916	
Total Accumulated other comprehensive income	11,241	12,210	99,752	
Non-controlling interests	1,531	1,481	13,586	
Total net assets	156,924	151,263	1,392,528	
Total liabilities and net aseets	¥ 228,169	¥ 223,854	\$ 2,024,749	

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# **Consolidated Statements of Income Consolidated Statements of Comprehensive Income**

For FY2015 and FY2014

Consolidated Statements of Income	(Millions of Yen)		
	FY2015	FY2014	FY2015
Net sales	¥ 176,894	¥ 171,206	\$ 1,569,740
Cost of sales	106,146	106,184	941,929
Gross profit	70,748	65,022	627,811
Selling, general and administrative expenses	42,142	39,675	373,964
Operating income	28,606	25,347	253,847
Non-operating income			
Interest income	16	20	142
Dividend income	580	613	5,147
Share of profit of entities accounted for using equity method	858	1,093	7,614
Gain on sales of non-current assets	274	12	2,431
Foreign exchange gains		476	
Other	748	684	6,638
Total Non-operating income	2,478	2,901	21,990
Non-operating expenses		<u> </u>	·
Interest expenses	194	211	1,722
Loss on disposal of non-current assets	319	332	2,831
Plant stop losses	327	420	2,902
Product compensation expenses	211	-	1,872
Foreign exchange losses	165	-	1,464
Other	334	892	2,964
Total Non-operating expenses	1,552	1,857	13,772
Ordinary income	29,531	26,391	262,055
Extraordinary income		i	
Gain on sales of investment securities	3,081	-	27,340
Total Extraordinary income	3,081	-	27,340
Extraordinary losses			
Impairment loss	3,941	-	34,972
Loss on business of subsidiaries and associates	311	-	2,760
Product compensation expenses		390	
Business structure improvement expenses		704	
Total Extraordinary losses	4,253	1,095	37,741
Income before income taxes and non-controlling interests	28,360	25,296	251,664
Income taxes-current	7,955	7,265	70,592
Income taxes-deferred	(2,151)	(351)	(19,088)
Total income taxes	5,804	6,914	51,504
Net income	22,556	18,381	200,160
Net income attributable to non-controlling interests	206	182	1,828
Net income attributable to owners of parent	¥ 22,350	¥ 18,199	\$ 198,332

Consolidated Statements of Comprehensive Income	(Millions o	(Thousands of U.S. Dollars)	
	FY2015	FY2014	FY2015
Net income	¥ 22,556	¥ 18,381	\$ 200,160
Other comprehensive income			
Valuation difference on available-for-sale securities	(159)	4,538	(1,411)
Foreign currency translation adjustment	(800)	952	(7,099)
Remeasurements of defined benefit plans, net of tax	(84)	221	(745)
Share of other comprehensive income of entities accounted for using equity method	(1)	0	(9)
Total other comprehensive income	(1,047)	5,712	(9,291)
Comprehensive income	21,508	24,094	190,860
(Comprehensive income attribute to)			
Owners of parent	21,380	23,832	189,724
Non-controlling interests	¥ 127	¥ 261	\$ 1,127

# **Consolidated Statements of Changes in Net Assets** For FY2015

	(]					(Millions of Yen)	
		To	tal shareholders' eq	uity			
	Capital stock	Capital surplus	Retained earnings	Treasury s	hares	Total shareholders' equity	
Balance at beginning of current period	¥ 18,942	¥ 13,611	¥ 105,602	¥	(584)	¥ 137,572	
Cumulative effects of changes in accounting policies						-	
Restated balance	18,942	13,611	105,602		(584)	137,572	
Changes of items during period							
Dividends of surplus			(6,269)			(6,269)	
Net income attribute to owners of parent			22,350			22,350	
Change of scope of consolidation			(500)			(500)	
Purchase of treasury shares				(9	,001)	(9,001)	
Disposal of treasury shares		0			0	0	
Cancellation of treasury shares		(0)	(5,304)	5	,304	-	
Net changes of items other than shareholders' equity							
Total changes of items during period	-	-	10,276	(3	,696)	6,579	
Balance at end of current period	¥ 18,942	¥ 13,611	¥ 115,878	¥ (4	,281)	¥ 144,151	

	A	ccumulated other of	comprehensive incor	ne		
	Valuation difference on available-for-sale securities	Foreign currency translation adjustment	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance at beginning of current period	¥ 10,676	¥ 894	¥ 639	¥ 12,210	¥ 1,481	¥ 151,263
Cumulative effects of changes in accounting policies						-
Restated balance	10,676	894	639	12,210	1,481	151,263
Changes of items during period						
Dividends of surplus						(6,269)
Net income attribute to owners of parent						22,350
Change of scope of consolidation						(500)
Purchase of treasury shares						(9,001)
Disposal of treasury shares						0
Cancellation of treasury shares						-
Net changes of items other than shareholders' equity	(161)	(722)	(84)	(969)	50	(918)
Total changes of items during period	(161)	(722)	(84)	(969)	50	5,660
Balance at end of current period	¥ 10,515	¥ 171	¥ 554	¥ 11,241	¥ 1,531	¥ 156,924

# **Consolidated Statements of Changes In Net Assets** For FY2014

	Total abarahaldara' aquitu				(Millions of Yen	
	Capital stock	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity	
Balance at beginning of current period	¥ 18,942	¥ 13,611	¥ 98,121	¥ (698)	¥ 129,975	
Cumulative effects of changes in accounting policies			213		213	
Restated balance	18,942	13,611	98,334	(698)	130,189	
Changes of items during period						
Dividends of surplus			(4,814)		(4,814)	
Net income attribute to owners of parent			18,199		18,199	
Change of scope of consolidation					-	
Purchase of treasury shares				(6,001)	(6,001)	
Disposal of treasury shares		0		0	0	
Cancellation of treasury shares		(0)	(6,116)	6,116	-	
Net changes of items other than shareholders' equity						
Total changes of items during period	-	-	7,268	114	7,382	
Balance at end of current period	¥ 18,942	¥ 13,611	¥ 105,602	¥ (584)	¥ 137,572	

	Ac	cumulated other c	omprehensive incom	Accumulated other comprehensive income			
	Valuation difference on available-for-sale securities	Foreign currency translation adjustment	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	Total net assets	
Balance at beginning of current period	¥ 6,138	¥ 20	¥ 417	¥ 6,576	¥ 1,269	¥ 137,822	
Cumulative effects of changes in accounting policies						213	
Restated balance	6,138	20	417	6,576	1,269	138,035	
Changes of items during period							
Dividends of surplus						(4,814)	
Net income attribute to owners of parent						18,199	
Change of scope of consolidation						-	
Purchase of treasury shares						(6,001)	
Disposal of treasury shares						0	
Cancellation of treasury shares						-	
Net changes of items other than shareholders' equity	4,538	873	221	5,633	211	5,845	
Total changes of items during period	4,538	873	221	5,633	211	13,227	
Balance at end of current period	¥ 10,676	¥ 894	¥ 639	¥ 12,210	¥ 1,481	¥ 151,263	

### For FY2015

	(Thousands of U.S.dolla				nds of U.S.dollars)
_		То	tal shareholders' eq	uity	
	Capital stock	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity
Balance at beginning of current period	\$ 168,089	\$ 120,783	\$ 937,102	\$ (5,182)	\$ 1,220,800
Cumulative effects of changes in accounting policies					-
Restated balance	168,089	120,783	937,102	(5,182)	1,220,800
Changes of items during period					
Dividends of surplus			(55,630)		(55,630)
Net income attribute to owners of parent			198,332		198,332
Change of scope of consolidation			(4,437)		(4,437)
Purchase of treasury shares				(79,874)	(79,874)
Disposal of treasury shares		0		0	0
Cancellation of treasury shares		(0)	(47,067)	47,067	-
Net changes of items other than shareholders' equity					
Total changes of items during period	-	-	91,188	(32,798)	58,381
Balance at end of current period	\$ 168,089	\$ 120,783	\$ 1,028,290	\$ (37,989)	\$ 1,279,182

	Ac	Accumulated other comprehensive income				
	Valuation difference on available-for-sale securities	Foreign currency translation adjustment	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance at beginning of current period	\$ 94,738	\$ 7,933	\$ 5,670	\$ 108,350	\$ 13,142	\$ 1,342,293
Cumulative effects of changes in accounting policies						-
Restated balance	94,738	7,933	5,670	108,350	13,142	1,342,293
Changes of items during period						
Dividends of surplus						(55,630)
Net income attribute to owners of parent						198,332
Change of scope of consolidation						(4,437)
Purchase of treasury shares						(79,874)
Disposal of treasury shares						0
Cancellation of treasury shares						-
Net changes of items other than shareholders' equity	(1,429)	(6,407	<sup>(745)</sup>	(8,599)	444	(8,146)
Total changes of items during period	(1,429)	(6,407	<sup>'</sup> ) (745)	(8,599)	444	50,226
Balance at end of current period	\$ 93,309	\$ 1,517	\$ 4,916	\$ 99,752	\$ 13,586	\$ 1,392,528

### **Consolidated Statements of Cash Flows** For FY2015 and FY2014

	(Millions of Yen)		(Thousands of U.S. dollars)	
	FY2015	FY2014	FY2015	
Cash flows from operating activities				
Income before income taxes and non-controlling interests	¥ 28,360	¥ 25,296	\$ 251,664	
Depreciation	9,684	8,452	85,935	
Impairment loss	3,941	-	34,972	
Interest and dividend income	(597)	(633)	(5,298)	
Interest expenses	194	211	1,722	
Increase (decrease) in provision for business structure improvement	(23)	704	(204)	
Increase (decrease) in provision for loss on business of subsidiaries and associates	309	-	2,742	
Loss (gain) on sales of investment securities	(3,081)	-	(27,340)	
Loss (gain) on disposal of non-current assets	319	332	2,831	
Decrease (increase) in notes and accounts receivable-trade	143	(3,775)	1,269	
Decrease (increase) in inventories	(2,716)	(2,659)	(24,102)	
Increase (decrease) in notes and accounts payable-trade	352	(950)	3,124	
Other	(514)	(714)	(4,561)	
Subtotal	36,372	26,263	322,762	
Interest and dividend received	1,177	1,386	10,445	
Interest paid	(194)	(223)	(1,722)	
Income taxes paid	(7,366)	(6,974)	(65,365)	
Net cash provided by (used in) operating activities	29,989	20,452	266,119	
Cash flows from investing activities				
Purchase of investment securities	(331)	(1,648)	(2,937)	
Proceeds from sales and redemption of investment securities	2,206	3,077	19,576	
Purchase of property, plant and equipment	(9,071)	(8,568)	(80,495)	
Payments for retirement of property, plant and equipment	(262)	(253)	(2,325)	
Net decrease (increase) in short-term loans receivable	(216)	(109)	(1,917)	
Other	(742)	(574)	(6,584)	
Net cash provided by (used in) investing activities	(8,416)	(8,076)	(74,683)	
Cash flows from financing activities				
Net increase (decrease) in short-term loans payable	54	(854)	479	
Proceeds from long-term loans payable	1,100	6,700	9,761	
Repayments of long-term loans payable	(3,090)	(7,066)	(27,420)	
Cash dividends paid	(6,269)	(4,814)	(55,630)	
Dividends paid to non-controlling interests	(70)	(50)	(621)	
Purchase of treasury shares	(9,001)	(6,001)	(79,874)	
Other	(40)	(40)	(355)	
Net cash provided by (used in) financing activities	(17,317)	(12,127)	(153,669)	
Effect of exchange rate change on cash and cash equivalents	(324)	337	(2,875)	
Net increase (decrease) in cash and cash equivalents	3,931	585	34,883	
Cash and cash equivalents at the beginning of period	31,343	30,757	278,135	
Increase in cash and cash equivalents from newly consolidated subsidiary	61	-	541	
Cash and cash equivalents at the end of period	¥ 35,335	¥ 31,343	\$ 313,559	

# **Notes to Consolidated Financial Statements**

#### 1. Basis for presenting consolidated financial statements

The accompanying consolidated financial statements have been prepared in accordance with the provisions set forth in the Japanese Financial Instruments and Exchange Act, the related accounting regulations, and the accounting principles generally accepted in Japan ("J-GAAP"), which differ in certain aspects from the application and disclosure requirements of the accounting principles generally accepted in the United States of America ("US-GAAP") and International Financial Reporting Standards ("IFRS"). In preparing these consolidated financial statements, certain reclassification and rearrangements have been made to the consolidated financial statements issued in Japan in order to present them in a form that is more familiar to readers in other countries.

#### 2. Summary of Significant Accounting Policies

#### a. Consolidation

The consolidated financial statements as of March 31, 2016 include the account of Nissan Chemical Industries, Ltd.(the "Company") and its ten main (nine in FY2014)subsidiaries (together, the "Companies"). The Company does not consolidate other subsidiaries due to their immateriality in terms of consolidated total assets, net sales, net income, and retained earnings. Under the control or influence concept, those companies in which the Company, either directly or indirectly, is able to exercise control over operations are fully consolidated. Those companies over which the Company has the ability to exercise significant influence are accounted for by the equity method. Investments in two affiliated companies (two in FY2014) are accounted for by the equity method. The assets and liabilities of the newly consolidated subsidiaries are stated at fair value as of the respective dates on which they were acquired.

All significant inter-company balances and transactions have been eliminated in consolidation.

All material unrealized profits included in assets resulting from transactions within the Companies are eliminated.

#### b. Securities

The Company's marketable securities are reported at fair value. Unrealized holding gains and losses, net of the related tax effect, on marketable securities are excluded from earnings. Instead, they are reported as a separate component of other comprehensive income until realized. Realized gains and losses for securities are included in earnings, and are derived using the moving average method for determining the cost of securities sold.

Non-marketable securities in companies over which the Company is incapable of exercising significant influence are stated at cost and reviewed periodically for impairment.

#### c. Inventories

Inventories are stated at the lower of cost or net realizable value. The cost is determined by the average method.

#### d. Property, Plant and Equipment (excluding Leased Assets)

Property, plant and equipment are stated at cost. In general, the deprecia-

tion of property, plant and equipment is computed by the declining-balance method over the estimated useful lives of these assets.

The estimated useful life ranges are two years to fifty years for buildings and structures, and two years to twelve years for machinery and equipment.

#### e. Goodwill and other Intangible Assets

Goodwill is amortized by the straight-line method within 20 years. Other intangible assets are also amortized the using straight-line method. The most typical intangible asset is Software, and its useful life is five years.

#### f. Leased Assets

Leased assets arising from finance lease transactions which do not transfer ownership to the lessee are depreciated to a residual value of zero by the straight-line method, using the contract term as the useful life.

#### g. Allowance for Doubtful Accounts

The allowance for doubtful accounts is the Company's best estimate for the amount of probable credit losses in the Company's existing trade receivables.

An additional reserve for individual receivable is recorded when the Company becomes aware of a customer's inability to meet its financial obligations, such as when a customer files for bankruptcy or when the its operating results or financial position deteriorates. If the customer's circumstances change, estimates of the recoverability of receivables are further adjusted.

#### h. Provision for Bonuses

The Company provides accrued bonuses for employees based on the estimated amounts to be paid for the fiscal year.

#### i. Provision for Director's Bonuses

The Company provides accrued bonuses for members of the Board of Directors based on the estimated amounts to be paid for the fiscal year.

#### j. Provision for Environmental Measures

The Company provides a reserve at the estimated cost to deal with the expenditures of Environmental Measures.

#### k. Provision for Business Structural Improvement

The Company provides a reserve at the estimated amount to cover the expenses and losses to be incurred in association with structure improvement.

#### I. Provision for Loss on Business of Subsidiaries and Associates

The Company provides a reserve at the estimated amount to cover the losses in consideration of its financial position.

#### m. Provision for Retirement Benefits

The Company has a defined benefit pension plan and a retirement plan that substantially covers all of its employees.

The method for calculating the estimated amount of all retirement benefits to be paid at future retirement dates is based on the benefit formula. Actuarial gains and losses are primarily amortized using the declining-balance method over the average of the estimated remaining service years (16 years) commencing from this accounting period.

Certain consolidated subsidiaries use a simplified method for calculating retirement benefits.

In this method, the retirement benefit obligation is the same amount as the necessary payment related to retirement benefits.

#### n. Translation of Foreign Currency

The assets and liabilities of the Company's subsidiaries located outside Japan are translated into Japanese yen at the exchange rate in effect on the balance sheet date. Revenue and expense items are translated at the prevailing average exchange rates for the year. Gains and losses resulting from foreign currency transactions are included in other income (deductions), and those resulting from the translation of financial statements are excluded from the statements of income. Instead, they are accumulated in net assets as a component of accumulated other comprehensive income (loss).

#### o. Derivatives and Hedge Accounting

The Company enters into interest rate swap contracts to hedge the risk of changes in interest rates over borrowings.

Derivatives are carried at fair value with all changes in unrealized gains and losses charged to income, except for those which meet the criteria for deferral hedge accounting under which unrealized gains or losses, net of the applicable income taxes, are reported as components of accumulated other comprehensive income (loss). If interest rates swap contracts meet certain criteria, the net amount to be paid or received under the interest rate swap contract is added to or deducted from the interest on the assets or liabilities for which the swap contract is executed.

#### p. Cash and Cash Equivalent

The Company consider cash equivalents, include all highly fluid investments, to have been purchased with original maturities of three months or less.

#### 3. U.S. dollar Amounts

The accompanying consolidated financial statements are expressed in Japanese yen as of and for the year ended March 31, 2016 after being converted from the currency of the country in which the Company operates. The translation of Japanese yen amounts to United States dollar amounts is included solely for the convenience of the readers outside Japan, and has been made at the rate of ¥112.69 to US \$1, which is the approximate closing exchange rate reported by the Tokyo Foreign Exchange Market on March 31, 2016. This translation should not be construed to indicate that the Japanese yen amounts shown can be converted to United States dollars at the above rate.

#### 4. Change in Accounting Policy

Effective from the beginning of the year ended March 31, 2016, the Company has adopted the "Revised Accounting Standard for Business Combinations"(Accounting Standards Board of Japan (ASBJ) Statement No.21, issued on September 13, 2013, hereinafter referred to as the "Accounting Standard for Business Combinations"), "Revised Accounting Standard for Consolidated Financial Statements" (ASBJ Statement No.22, issued on September 13, 2013, hereinafter referred to as the Accounting Standard for Consolidation), and "Revised Accounting Standard for Business Divestitures"(ASBJ Statement No.7, issued on September 13, 2013, hereinafter referred to as the "Accounting Standard for Business Divestitures").

In applying these revised accounting standards, the Company records differences arising from changes in equity interest in subsidiaries as capital surplus when it maintains control over its subsidiaries. The corresponding acquisition-related costs are recognized as expenses when incurred. In regards to business combinations conducted after the beginning of the first quarter of the current consolidated fiscal year, the disclosure method was revised to reflect the retrospective adjustment of purchase price allocation after determining the provisional accounting method in the quarterly consolidated financial statements of the fiscal period in which the business combination occurred.

In addition, the presentation method of net income is amended, and the presentation of "minority interests" is changed to "non-controlling interests". To reflect these changes in presentation, the quarterly consolidated financial statements and consolidated financial statements in the previous fiscal year have been reclassified.

In regards to the application of the Accounting Standard for Business Combinations and other standards, the Company is subject to the transitional treatment set out in Section 58-2(4) of the Accounting Standard for Business Combinations, the treatment set out in Section 44-5(4) of the Accounting Standard for Consolidation, and the treatment set out in Section 57-4(4) of the Accounting Standard for business Divestitures.

These changes are effective from the beginning of the first quarter of current consolidated fiscal year. Likewise, they have no effect on profit and loss.

#### 5. Reclassifications

Effective from the beginning of the current consolidated fiscal year, "Long-term loans receivable", which were displayed separately in "Investments and other assets" in the previous fiscal year, are now included in "Other" to improve the level of clarity.

In order to reflect the change in the indication method, the Company has classified the consolidated financial statement for the previous fiscal year. As a result,  $\pm 21$  million of "Long-term loans receivable" and  $\pm 1,940$  million of "Other", which were shown in "Investments and other assets" in the previous consolidated balance sheets, are reclassified as  $\pm 1,962$  million of "Other".

Effective from the beginning of the current consolidated fiscal year, "Gain on sales of non-current assets", which were included in "Other" of

"Non-operating income" in the previous fiscal year, are displayed separately since the amount exceeded the 10% of "Non-operating income". In order to reflect the change in the indication method, the Company has classified the consolidated financial statement for the previous fiscal year. As a result, ¥697 million of "Other" and ¥12 million of "Gain on sales of non-current assets" in the previous consolidated statements of income are reclassified as ¥684 million of "Other".

Effective from the beginning of the current consolidated fiscal year, "Environmental expenses", which were displayed separately in "Non-operating expenses" in the previous fiscal year, are included in "Other" since the amount was lower than 10% of "Non-operating income". In order to reflect the change in the indication method, the Company has classified the consolidated financial statement for the previous fiscal year. As a result, ¥315 million of "Environmental expenses "and ¥577 million of "Other" in the previous consolidated statements of income are reclassified as ¥892 million of "Other".

#### 6. Collateral Assets and Liabilities

Collateral assets and liabilities as of FY2015 and FY2014 were as follows:

	(Millions	(Thousands of U.S. dollars)	
	FY2015	FY2014	FY2015
Investment in securities	¥ 180	¥ 215	\$ 1,597
Liabilities	¥ 270	¥ 256	\$ 2,396

#### 7. Research and Development Expenses

Research and development expenses included in selling, general and administrative expenses for FY2015 and FY2014 were as follows:

(Millions o	(Thousands of U.S. dollars)	
FY2015	FY2014	FY2015
¥ 15,778	¥ 14,964	\$ 140,012

#### 8. Impairment Losses

The Company recognized impairment losses on the following asset group for FY2015.

			(Millions of Yen)	(Thousands of U.S. dollars)
Place	Use	Туре	Amount	Amount
Germany	Three-dimensional packaging material market	Goodwill and Patent	¥ 3,941	\$ 34,972

In general, the Companies define division as the basis of grouping. In the case of consolidated subsidiaries, the Company is also defined as the basis of grouping in terms of its scale.

In regards to intangible assets, we deem each asset to be one group. The book value of Goodwill and Patent of Thin Materials GmbH (consolidate subsidiary) is reduced to a recoverable amount, and is recognized as an impairment loss on an extraordinary loss.

The companies measure the recoverable amount of this asset group by value in use. It is calculated by discounting the future cash flow at 11%.

#### 9. Comprehensive Income

	(Millions o	(Thousands of U.S. dollars)	
	FY2015	FY2014	FY2015
Valuation difference on available-f	or-sale sec	urities:	
Gains (losses) arising during the year	¥ 2,426	¥ 6,263	\$ 21,528
Reclassification adjustment	(3,048)	(21)	(27,048)
Amount before tax effect	(621)	6,241	(5,511)
Tax effect	461	(1,703)	4,091
Valuation difference on available-for-sa securities, net of tax	ale (159)	4,538	(1,411)
Foreign currency translation adjus	stment		
Gains (losses) arising during the year	(758)	952	(6,726)
Reclassification adjustment		-	
Amount before tax effect	(758)	952	(6,726)
Tax effect	(42)	-	(373)
Foreign currency translation adjustment	nt, <b>(800)</b>	952	(7,099)
Remeasurements of defined benef	it plans:		
Gains (losses) arising during the year	2	384	18
Reclassification adjustment	(148)	(87)	(1,313)
Amount before tax effect	(146)	297	(1,296)
Tax effect	61	(75)	541
Remeasurements of defined benefit pl net of tax	ans, (84)	221	(745)
Share of other comprehensive income of	entities accou	inted for using	equity methods
Gains (losses) arising during the year	(1)	0	(9)
Total other comprehensive income	¥ (1,047)	¥ 5,712	\$ (9,291)

#### 10. Common Stock

(1) Dividends

Cash dividends charged to retained earnings for the years ended March 31, 2015 and 2016 represent the dividends paid out during those years. The accompanying consolidated financial statements do not include any provisions for a dividend approved by the Annual Shareholders Meeting of  $\pm$ 26 (0.23) per share with an aggregate  $\pm$ 4,013 million (35,611 thousand) for the year ended March 31, 2016.

#### (2) Retained Earnings

Retained earnings on a consolidated basis consist of legal reserve and retained earnings. In accordance with provisions of the Companies Act of Japan, the Company has provided a legal reserve as an appropriation of retained earnings. The Code states that while neither legal capital surplus nor legal retained earnings are available for dividends, both may be used to reduce or eliminate a deficit by a resolution of the shareholders' meeting, or may be transferred to stated capital common stock by a resolution of the Board of Directors. Legal reserve in the accompanying consolidated financial statement includes only that of the Company. Retained earnings of the Company and its consolidated subsidiaries include a certain special reserve for the purpose of obtaining tax benefits in accordance with the Special Taxation Law of Japan.

#### **11. Investment Securities**

	(Millions of	(Thousands of U.S. dollars)	
	FY2015	FY2014	FY2015
Equity securities	¥ 24,559	¥ 26,735	\$ 217,934
Unlisted securities of affiliates	7,244	10,642	64,283
Unlisted securities	1,447	1,334	12,841
	¥ 33,251	¥ 38,711	\$ 295,066

### 12. Short-term Debt and Long-term Debt

Short-term debt consisting of an unsecured bank overdraft as of March 31, 2016 was ¥22,938 million (\$203,549 thousand).

The weighted average interest rate on short-term debt outstanding as of March 31, 2016 was 0.61%.

The weighted average interest rate on long-term debt outstanding as of March 31, 2016 was 0.90%.

The weighted average interest rate on the current portion of long-term debt outstanding as of March 31, 2016 was 0.93%.

Long-term debt as of March 31, 2015 and 2016 was as follows:

	(Millions of	(Millions of Yen)		
	FY2015	FY2014	FY2015	
Long-term debt	¥ 10,160	¥ 12,150	\$ 90,159	
Less current portion	(3,060)	(3,090)	(27,154)	
	¥ 7,100	¥ 9,060	\$ 63,005	

Long-term debt payment due after FY2015 were as follows:

Year ending March 31	(Millions of Yen)	(Thousands of U.S. dollars)
FY2016	¥ 2,960	\$ 26,267
FY2017	2,360	20,942
FY2018	1,560	13,843
FY2019 and thereafter	220	1,952
	¥ 7,100	\$ 63,005

#### **13. Retirement Benefits**

 The liability for retirement benefits as of FY2015 and FY2014 were as follows:

_	(Millions o	U.S. dollars)	
	FY2015	FY2014	FY2015
Retirement benefit obligation	¥ 11,998	¥ 12,173	\$ 106,469
Plan asset	(14,055)	(14,131)	(124,723)
	(2,056)	(1,958)	(18,245)
Unfunded retirement benefit obligation	72	67	639
Net retirement benefit obligation	(1,983)	(1,890)	(17,597)
Net defined benefit liability	102	174	905
Net defined benefit asset	(2,086)	(2,064)	(18,511)
Net retirement benefit obligation	¥ (1,983)	¥ (1,890)	\$ (17,597)

#### (2) Actuarial assumptions

The principal actuarial assumptions as FY2015 and FY2014 were as follows:

	FY2015	FY2014
Discount rate	0.8%	0.8%
Long-term expected rate of return	2.0%	2.0%
Expected rate of salary increase	3.6 to 9.0%	3.7 to 9.0%

(Note) Expected rate of salary increase is calculated based on our point system.

#### 14. Income Taxes

The Company is subject to a number of taxes based on income. The statutory income tax rates were approximately 33.06% for the year ended March 31,2016 and 35.64% for the year ended March 31, 2015.

The tax effects of significant temporary differences which resulted in deferred tax assets and liabilities as of FY2015 and FY2014 were as follows:

	(Millions o	(Thousands of U.S. dollars)		
	FY2015	FY2014	FY2015	
Deferred tax assets:				
The tax effect of investment on subsidiary to be liquidated	¥ 1,124	¥ -	\$ 9,974	
Inventory	754	732	6,691	
Provision for bonus	575	601	5,102	
Unrealized profit of inventory	468	398	4,153	
Business tax	395	340	3,505	
Others	2,440	2,801	21,652	
Gross deferred tax assets	5,759	4,872	51,105	
Less: Valuation allowance	(41)	(133)	(364)	
Total deferred tax assets	5,717	4,739	50,732	
Deterred tax liabilities:	(4.754)	(5 440)	(40,400)	
Unrealized gain on securities	(4,751)	(5,146)	(42,160)	
Net defined benefit asset	(631)	(614)	(5,599)	
Reserve for advanced	(285)	(311)	(2,529)	
depreciation of fixed assets				
Others	(76)	(133)	(674)	
Total deferred tax liabilities	(5,745)	(6,205)	(50,981)	
Net deferred tax assets	¥ (27)	¥ (1,466)	\$ (240)	

The differences between the statutory tax rate and the effective tax rate for the year ended FY2015 and FY2014 were as follows:

	FY2015	FY2014
Statutory tax rate	33.06%	35.64%
(Reconciliation)		
Elimination of intercompany dividend income	2.45%	3.48%
Change in statutory income tax rate	0.67	1.10
Entertainment and other permanently non-deductible expense	0.59	0.66
Tax credit	(7.74)	(6.52)
Investment on subsidiaries to be liquidated	(3.97)	-
Dividend and other items excluded permanently from taxable income	(2.55)	(3.81)
Equity in earnings of entities accounted for using equity method	(1.00)	(1.54)
Difference of tax rate for foreign consolidated subsidiaries	(0.60)	(1.29)
Other, net	(0.44)	(0.38)
Effective tax rate	20.47%	27.34%

#### **15. Segment Information**

(1) General Information about reportable segments

In regard to reportable segments, the Company is able to obtain discrete financial data from its component units.

Accordingly, its segments are subject to regular review to help the Board of Directors decide how to allocate managerial resources and evaluate business performance.

Divisions by products and services are located at headquarters. Each division works out a comprehensive strategy applicable to their products and services and carries out their business activities.

The Company consists of segments based on the following divisions:

Segment	Main Products
Chemicals	Basic chemicals (melamine, sulfuric acid, nitric acid, ammonia, etc.) Fine chemicals (epoxy compound for LED sealants, solder resist and painting,flame retardants, chlorinated cyanuric acid for sterilizing, etc.)
Performance Materials	Display materials (LCD alignment coating, etc.) Semiconductor materials (bottom anti-reflective coating for semiconductors, etc.) Inorganic materials (hard coating materials, electronic information materials, polishing materials, etc.)
Agricultural Chemicals	Agrochemicals (herbicides, insecticides, fungicides, combination fungicide and insecticide, and plant growth regulators) Veterinary pharmaceuticals
Pharmaceuticals	LIVALO (anti-cholesterol drugs), etc. Finetech (custom manufacturing and process services for pharmaceutical companies)
Trading	Trading, etc.
Others	Transportation, landscaping, engineering, fertilizer, etc.

(2) Basis for the measurement of reported segment income or loss, segment assets, and other material items

The accounting policies for the reportable segments are consistent with the Company's accounting policies used in the preparation of its consolidated financial statements.

Intersegment sales and income (loss) are recognized based on current market prices.

(3) Information on sales, income (loss), assets, and other item amounts by reportable segment

				Millions	of Yen			
FY2014	Chemicals	Performance Materials	Agricultural Chemicals	Pharmaceuticals	Trading	Other	Adjustment (Note)	Consolidated total
Net sales								
Sales to outside customers	¥ 25,072	¥ 43,668	¥ 42,229	¥ 8,759	¥ 41,154	¥ 10,321	¥ -	¥ 171,206
inter-segment sales	9,190	5,702	3,452	53	13,235	10,561	(42,195)	-
Total sales	34,263	49,371	45,682	8,812	54,390	20,882	(42,195)	171,206
Segment income (loss)	1,895	12,019	9,244	2,308	1,679	580	(2,380)	25,347
Segment assets	25,173	43,926	53,577	11,426	18,486	9,910	61,353	223,854
Other items								
Depreciation and amortization	1,384	3,561	1,374	902	70	375	305	7,975
Amortization of goodwill	-	5	468	-	2	-	-	476
Increase of property, plant and								
equipment and intangible assets	¥ 1,393	¥ 5,244	¥ 1,765	¥ 415	¥ 19	¥ 338	¥ 620	¥ 9,796

Notes: The adjustments are as follows:

1) The ¥(2,380) million adjustment in segment income includes ¥(386) million in intersegment eliminations and ¥(1,993) million corporate expenses not attributable to any reportable segment.

The corporate expenses are mainly group administrative expenses which do not belong to any segment.

2) The ¥61,353 million adjustment in segment assets includes ¥(11,165) million in inter-segment asset and liability eliminations and ¥72,518 million in corporate assets not attributable to any reportable segment.

The corporate assets are mainly group administrative assets which do not belong to any segment.

3) The ¥305 million adjustment for depreciation and amortization is for corporate expenses.

4) The ¥620 million adjustment for the increase of property, plant and equipment, and intangible assets is for corporate assets.

	Millions of Yen							
FY2015	Chemicals	Performance	Agricultural Chemicals	Pharmaceuticals	Trading	Other	Adjustment	Consolidated
Net sales	enenioale	Wateriais	onemicais	. Hamadodabalo	naang	outor	(Note)	lotai
Sales to outside customers	¥ 25,159	¥ 45,840	¥ 43,695	¥ 8,668	¥ 43,014	¥ 10,516	¥ -	¥ 176,894
Intersegment sales	9,187	5,932	3,792	-	12,630	10,362	(41,905)	-
Total sales	34,347	51,773	47,487	8,668	55,644	20,879	(41,905)	176,894
Segment income (loss)	3,927	12,021	10,831	2,006	1,813	475	(2,469)	28,606
Segment assets	26,643	40,972	52,917	11,144	19,672	10,147	66,671	228,169
Other items								
Depreciation and amortization	1,427	5,124	1,411	818	57	386	403	9,629
Amortization of goodwill	-	51	-	-	2	-	-	54
Increase of property, plant and								
equipment, and intangible assets	¥ 2,264	¥ 5,405	¥ 1,298	¥ 438	¥ 15	¥ 441	¥ 381	¥ 10,245

Notes: The adjustments are as follows:

1) The ¥(2,469) million adjustment in segment income includes ¥(361) million in intersegment eliminations and ¥(2,107) million corporate expenses not attributable to any reportable segment.

The corporate expenses are mainly group administrative expenses which do not belong to any segment.

2) The ¥66,671 million adjustment in segment assets includes ¥(11,172) million in inter-segment asset and liability eliminations and ¥77,843 million in corporate assets not attributable to any reportable segment.

The corporate assets are mainly group administrative assets which do not belong to any segment.

3) The ¥403 million adjustment in depreciation and amortization is for corporate expenses.

4) The ¥381 million adjustment in increase of property, plant and equipment and intangible assets is for corporate assets.

				Thousands of	U.S. Dollars			
FY2015	Chemicals	Performance Materials	Agricultural Chemicals	Pharmaceuticals	Trading	Other	Adjustment (Note)	Consolidated total
Net sales								
Sales to outside customers	\$ 223,258	\$ 406,780	\$ 387,745	\$ 76,919	\$ 381,702	\$ 93,318	\$-	\$ 1,569,740
inter-segment sales	81,525	52,640	33,650	-	112,077	91,951	(371,861)	-
Total sales	304,792	459,429	421,395	76,919	493,779	185,278	(371,861)	1,569,740
Segment income (loss)	34,848	106,673	96,113	17,801	16,088	4,215	(21,910)	253,847
Segment assets	236,427	363,582	469,580	98,891	174,567	90,043	591,632	2,024,749
Other items								
Depreciation and amortization	12,663	45,470	12,521	7,259	506	3,425	3,576	85,447
Amortization of goodwill	-	453	-	-	18	-	-	479
Increase of property, plant and								
equipment and intangible assets	\$ 20,091	\$ 47,963	\$ 11,518	\$ 3,887	\$ 133	\$ 3,913	\$ 3,381	\$ 90,913

Overseas operations, which represent sales to customers outside Japan for FY2015 and FY2014 were as follows:

			Millions of Yen	l					
FY2014	Japan	Japan Korea			Consolidated total				
Net sales	¥ 104,234	¥ 16,988	¥ 32,609	¥ 17,373	¥ 171,206				
FY2015	Japan	Japan Korea Asia			Consolidated total				
Net sales	¥ 104,032	¥ 18,401	¥ 34,398	¥ 20,062	¥ 176,894				
	Thousands of U.S. dollars								
FY2015	Japan	Korea	Asia	Europe and the United States	Consolidated total				
Net sales	\$ 923,170	\$ 163,289	\$ 305,244	\$ 178,028	\$ 1,569,740				

#### 16. Amounts per Share

Net income per share is based on the weighted average number of shares of common stock outstanding during the year. Cash dividends per share attributable to the period represent dividends declared as applicable to the year. Amounts per share of net income and cash dividends for FY2015 and FY2014 were as follows:

	Ye	Yen	
	FY2015	FY2014	FY2015
Net income	¥ 143.37	¥ 113.99	\$ 1.27
Cash dividends	¥ 44.00	¥ 36.00	\$ 0.39

# **Independent Auditor's Report**

### Yaesu Audit Company

5-17, Yaesu 1-chome, Chuo-ku, Tokyo 103-0028, Japan Phone: +(81)-3-3242-1351 Fax: +(81)-3-3242-1353

#### **Independent Auditor's Report**

To the Board of Directors of Nissan Chemical Industries, Ltd.

We have audited the accompanying consolidated financial statements of Nissan Chemical Industries, Ltd. and consolidated subsidiaries, which comprise the consolidated balance sheets as of March 31, 2016, and the related consolidated statements of income, comprehensive income, changes in net assets, and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information, all expressed in Japanese Yen.

#### Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in conformity with accounting principles generally accepted in Japan, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatements, whether due to fraud or error.

#### Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in conformity with auditing standards generally accepted in Japan. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Nissan Chemical Industries, Ltd. and consolidated subsidiaries as of March 31, 2016, and the consolidated results of their operations and their cash flows for the year then ended in conformity with accounting principles generally accepted in Japan.

#### **Convenience Translation**

The U.S. dollar amounts in the accompanying consolidated financial statements with respect to the year ended March 31, 2016 are presented solely for convenience. Our audit also included the translation of yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made on the basis described in Note 1 to the consolidated financial statements.

Yaesu Audit Company Tokyo, Japan June 28, 2016

Zaesu Audit Company

# **Our Network**

### Domestic Production Bases

### **Nagoya Plant**

This plant faces the Port of Nagoya. Here we manufacture sulfuric acid and high-quality urea aqueous solution, among other products.



### **Onoda Plant**

This plant is located in Sanyo-Onoda City, Yamaguchi. It is our base for the production of fine organic synthetic compounds, such as agrochemicals and pharmaceuticals.



### **Toyama Plant**

This plant is located in the center of Toyama Plain. Here we manufacture various groups of products, such as basic chemicals, environmental chemicals, and performance materials.





Saitama Plant This plant is located in northern Saitama. Here we manufacture agricultural formulations.



Sodegaura Plant Goi Works This plant is located in the industrial area in Sodegaura City, Chiba. It is our base for the production of performance materials.

### List of Offices, Plants and Laboratories

### Offices

Head Office 7-1, Kanda Nishiki-cho 3-chome, Chiyoda-ku, Tokyo 101-0054 Tel: 03-3296-8111

Sendai Office Greenwood Sendai Ichibancho Building 2-7-12, Ichibancho, Aoba-ku, Sendai 980-0811 Tel: 022-266-4311

Osaka Office Osaka Daiichi Seimei Building 1-8-17 Umeda, Kita-ku, Osaka 530-0001 Tel: 06-6346-7200

### **Plants**

Sodegaura Plant 11-1, Kitasode, Sodegaura, Chiba 299-0266 Tel: 0438-63-2341

Saitama Plant 235-1, Aza Nishidai, Oaza Jimbohara-machi, Kamisato-machi, Saitama 369-0305 Tel: 0495-34-2810

Nagoya Plant 7, Tsukiji-cho, Minato-ku, Nagoya 455-0045 Tel: 052-661-1676

### Laboratories

Chemical Research Laboratories 10-1, Tsuboi-Nishi 2-chome, Funabashi, Chiba 274-8507 Tel: 047-465-1112

Biological Research Laboratories 1470, Shiraoka, Shiraoka, Saitama 349-0294 Tel: 0480-92-2513

### Nissan Chemical Group

### **Domestic Consolidated Subsidiaries**

#### **Nissei Corporation**

1-10-5, Nihonbashihon-cho, Chuo-ku, Tokyo 103-0023 Tel: 03-3241-2548
Sales of chemical products and insurance, and real estate business

#### Nissan Green & Landscape Co., Ltd.

3-16-9, Uchikanda, Chiyoda-ku, Tokyo 101-0047 Tel: 03-3256-4031 Landscaping and civil engineering

#### Environmental Technical Laboratories, Ltd.

2-11-7, Kohoku, Adachi-ku, Tokyo 123-0872 Tel: 03-3898-6643

Environmental analysis

### **Entities accounted for using Equity Method**

### Sun Agro Co., Ltd.

1-10-5, Nihonbashihon-cho, Chuo-ku, Tokyo 103-0023 Tel: 03-3510-3601

Fertilizers and agrochemicals

#### **Sapporo Office**

Maruito Sapporo Building 1-1, Kita-Nijyo-Nishi, Chuo-ku, Sapporo 060-0002 Tel: 011-251-0261

Nagoya Office Nagoya KS Building 3-1-18, Taiko, Nakamura-ku, Nagoya 453-0801 Tel: 052-452-8623

**Fukuoka Office** JPR Hakata Building 1-4-4 Hakata Ekimae, Hakata-ku, Fukuoka 812-0011 Tel: 092-432-3421

Sodegaura Plant Goi Works 12-17, Goiminamikaigan, Ichihara, Chiba 290-0045 Tel: 0436-22-2110

**Toyama Plant** 635 Sasakura, Fuchu-machi, Toyama 939-2753 Tel: 076-433-9602

**Onoda Plant** 6903-1, Oaza Onoda, Sanyo-Onoda, Yamaguchi 756-0093 Tel: 0836-83-2800

#### Materials Research Laboratories

488-6, Suzumi-cho, Funabashi, Chiba 274-0052 Tel: 047-774-0200

11-1, Kitasode, Sodegaura, Chiba 299-0266 Tel: 0438-64-2881

635, Sasakura, Fuchu-machi, Toyama 939-2753 Tel: 076-465-7133

#### Nissan Butsuryu Co., Ltd.

- 1-10-5, Nihonbashihon-cho, Chuo-ku, Tokyo 103-0023 Tel: 03-5255-6901
- Transportation

#### Nissan Engineering, Ltd.

- 1-28-6, Kameido, Koto-ku, Tokyo 136-0071 Tel: 03-3636-7578
- Plant engineering services

#### Nihon Hiryo Co., Ltd.

- 1-10-5, Nihonbashihon-cho, Chuo-ku, Tokyo 103-0023 Tel: 03-3241-4231
- Fertilizers and agrochemicals

### Clariant Catalysts (Japan) K.K.

2-28-8, Honkomagome, Bunkyo-ku, Tokyo 113-0021 Tel: 03-5977-7300

Catalysts for petrochemical and petroleum products

### **Our Network**

### Overseas Bases (Consolidated Subsidiaries)



Nissan Chemical Europe S.A.R.L Parc d'affaires de Crécy - 10A rue de la Voie Lactée 69370 Saint Didier au Mont d'Or, France Tel: 33-4-37-64-40-20

Sales of agrochemicals



NCK Co., Ltd. 127, Chupalsandan-ro, Paengseong-eup, Pyeongtaek-si, Gyeonggi-do, 17998, Korea Tel: 82-31-691-7044

 R&D, production and sales of electronic materials



Nissan Chemical America Corporation 10333 Richmond Avenue, Suite 1100, Houston, Texas 77042, U.S.A. Tel: 1-713-532-4745

R&D, production and sales of inorganic materials

# **Corporate History**

History of Nissan Chemical Industries, Ltd.

We were founded in 1887 as Tokyo Jinzo Hiryo, Japan's first manufacturer of chemical fertilizers, by visionaries of the Meiji Period, namely Jokichi Takamine, Eiichi Shibusawa, Takashi Masuda, and others.

We later merged with Kanto Sanso, Nippon Kagaku Hiryo, and other companies, and eventually changed the company name to Dainippon Jinzo Hiryo. In 1937, we made a comprehensive transfer of our assets, etc., to Nippon Kagaku Kogyo, which was affiliated with Nippon Sangyo Corporation, and then changed the company name to Nissan Chemical Industries, Ltd., the name by which we are known today (hereafter, the "Company").

#### History

J	
February 1887	Tokyo Jinzo Hiryo is established .
July 1889	Nippon Seimi Seizo (later renamed Nippon Kagaku Hiryo) is established.
March 1891	The Onoda Plant of Nippon Seimi Seizo (now the Onoda Plant of the Company) is completed.
December 1895	Oji Seizosho (later renamed Kanto Sanso) is established.
November 1897	The Oji Plant of Kanto Sanso (which later becomes the Oji Plant of the Company) is completed.
December 1907	The Komatsugawa Plant of Tokyo Jinzo Hiryo (which later becomes Tokyo Nissan Kagaku) is completed.
July 1910	Tokyo Jinzo Hiryo is renamed Dainippon Jinzo Hiryo.
February 1919	The Nagoya Plant (now the Nagoya Plant of the Company) of Nippon Jinzo Hiryo (later merged with Nippon Kagaku Hiryo) is completed.
June 1922	Taisho Unsou (now Nissan Butsuryu Co., Ltd.) is established.
May 1923	Dainippon Jinzo Hiryo merges with Kanto Sanso and Nippon Kagaku Hiryo.
	The Research Section of the Engineering Department is established at the head office and the Research Group is established at the Oji Plant. They serve as the research and development departments.
April 1928	The Toyama Plant of Dainippon Jinzo Hiryo (now the Toyama Plant of the Company) is completed.
February 1931	The fertilizer testing station of Dainippon Jinzo Hiryo (Koyasu, Yokohama-shi) is relocated to Shiraoka (now the Biological Research Laboratories of the Company).
October 1932	Bunka Nohosha (now Nissei Corporation) is established.
December 1937	Dainippon Jinzo Hiryo transfers assets, etc. to Nippon Kagaku Kogyo and then the latter is renamed Nissan Chemical Industries, Ltd.
April 1943	Nissan Chemical Industries, Ltd. is acquired by Nippon Mining Co., Ltd. and becomes its chemical section.
April 1945	Nippon Oil & Fats Co., Ltd. takes over the chemical section of Nippon Mining Co., Ltd. in a transfer of business and changes its name to Nissan Chemical Industries, Ltd.
May 1949	The Company is listed on the Japanese stock exchange after it resumes operation.
July 1949	The Company spins off its oil and fats section (now NOF Corporation) in accordance with the Enterprise Reorganization Act.
January 1965	The Company establishes Nissan Petrochemicals Ltd., thereby entering the petrochemical business.
November 1968	Tokyo Nissan Kagaku relocates its plant to Kamisato-mura, Saitama (now the Saitama Plant of the Company).
August 1969	The Company constructs the Sodegaura Plant following the formulation of a plan to close and relocate the Oji Plant.
December 1969	Production at the Oji Plant is discontinued and the plant is closed.
June 1988	The Company transfers its petrochemical section to Kyowa Hakko Kogyo Co., Ltd. (now KH Neochem Co., Ltd.) and withdraws from the petrochemical business.
October 1989	The Company establishes Nissan Chemical America Corporation (NCA) in the United States.
July 1996	The Company establishes Nissan Chemical Houston Corporation (NCH) in the United States.
April 1998	The Company acquires Tokyo Nissan Kagaku as its Saitama Plant.
April 2001	The Company establishes Nissan Chemical Korea Co. Ltd. (now, NCK Co. Ltd.) in South Korea.
June 2001	The Company reorganizes its R&D facilities and sets up the Chemical Research Laboratories, Electronic Materials Research Laboratories, and Specialty Materials Research Laboratories.
October 2001	The Company establishes Nissan-Agri Co., Ltd. (now Sun Agro Co., Ltd.), thereby spinning off its fertilizer business and integrating group companies related to the business.
July 2002	The Company acquires the domestic herbicide business from Monsanto Japan Limited.
December 2002	The Company establishes Nissan Chemical Europe S.A.R.L. (NCE) in France.
February 2005	The Company establishes Nissan Chemical Agro Korea Ltd. (NAK) in South Korea.
January 2010	The Company acquires a fungicide from Dow AgroSciences LLC of the United States.
October 2010	The Company establishes Nissan Chemical Taiwan Co., Ltd. (NCT) in Taiwan.
June 2013	The Company acquires Thin Materials GmbH (Germany).
October 2013	The Company merges NCH into NCA.
January 2014	The Company establishes Nissan Chemical Product (Shanghai) Co., Ltd. (NCS) in China.
October 2014	The Company reorganizes the Electronic Materials Research Laboratories and Inorganic Materials Research Laboratories into the Materials Research Laboratories.

# **Corporate Profile**

(As of March 31, 2016)

Corporate Name Head Office Founded Common Stock Number of Employees Stock Listing Transfer Agent Nissan Chemical Industries, Ltd. 7-1, Kanda Nishiki-cho 3-chome, Chiyoda-ku, Tokyo 101-0054, Japan TEL : 03-3296-8111 1887 156,000,000 shares ¥18,942 million Consolidated : 2,371 Tokyo Stock Exchange Sumitomo Mitsui Trust Bank, Limited 4-1, Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-8233, Japan

# Directors / Corporate Auditors / Executive Officers (As of June 28, 2016)

Representative Director, President & CEO	Kojiro Kinoshita
Director, Senior Executive Vice President	Junichi Miyazaki
Director, Senior Managing Executive Officer	Kiminori Hirata
	Hiroyoshi Fukuro
Director, Managing Executive Officer	Tsuneo Higuchi
	Masataka Hatanaka
	Katsuaki Miyaji
Outside Director	Tisato Kajiyama
	Tadashi Ohe
Corporate Auditors	Sumio Kondo
	Yasuyuki Nakajima
	Norihiro Suzuki
	Noriyuki Katayama
Executive Officers	Satoru Hamamoto
	Nobutomo Tsuruzoe
	Hidenori Takishita
	Takeshi Iwata
	Hiroshi Onitsuka
	Hitoshi Suzuki
	Yuji Nishida
	Takashi Honda
	Hironori Yoshida
	Shinsuke Yagi
	Motoaki Ishikawa

Kazuhiko Ohrai

# **Stock Information**

### (As of March 31, 2016)

Total Number of Authorized Shares	360,000,000
Shares of Common Stock Issued	156,000,000
Shareholders	11,661

#### Major Shareholders (Top Five Companies)

	shares held (1,000 shares)	of held shares to the total number of issued shares (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	21,699	14.1
Japan Trustee Services Bank, Ltd. (Trust Account)	12,143	7.9
Trust & Custody Services Bank, Ltd.		
as trustee for the Mizuho Trust & Banking Co., Ltd.	7,769	5.0
Retirement Benefit Trust		
The Norinchukin Bank	4,800	3.1
Nissan Chemical Industries, Ltd. Customer Shareholders Association	3,982	2.6



Ratio of the number

Number of



### NISSAN CHEMICAL INDUSTRIES, LTD.

www.nissanchem.co.jp