CSR Report 2013

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

日産化学工業株式会社
NISSAN CHEMICAL INDUSTRIES, LTD.

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

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

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

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

Editing principle of this Report

Nissan Chemical began its Responsible Care activities* in 1992. In order for continuous improvement, we annually set our goals, develop plans, implement the plans, and conduct evaluation in 4 fields: "Environmental Protection", "Security and Disaster Prevention", "Occupational Health and Safety" and "Safety of Chemicals and Other Products". Our activities had been published since 1999 in the "Environment and Safety Report".

Meanwhile, the society's demand for corporate social responsibility and information disclosure is increasing year after year. In response this demand, we decided to issue this CSR Report, including wider range of topics. This Report is based on the Ministry of the Environment's "Environmental Report Guideline". It also incorporates core subjects of ISO 26000, the international standard for organizational social responsibility. This Report is the first edition. From next year, we will try to enrich the contents that will help deepen understanding of our stakeholders and meet their expectations.

Reporting period

Fiscal Year 2012 (April 2012 to March 2013)
※The Safety Results (P16) are from January to December 2012.

*Responsible Care activities

Responsible Care activities are the chemical industry's voluntary initiatives, that are publicly announced in their management principles, to implement and improve measures to secure and protect "environment, safety and health" in all processes from development through to manufacture, distribution, use, final consumption and disposal in their management principles, based on the self-decision/self responsibility principle.

CONTENTS

Message from the President

Greetings

Our company was founded in 1887 as the first chemical fertilizer manufacturer in Japan. Since then, we have been continuously manufacturing chemical derivatives while expanding our business in the fields of agrochemicals, pharmaceuticals, and electronic materials. Currently, we offer our products and services both in Japan and overseas in three business fields: Performance Materials (electronic, inorganic, organic) and Life Science (agrochemicals and pharmaceuticals) and Chemicals.

We also promote development of environmentally friendly products using our core technologies including "fine organic synthesis", "ultrafine particle control", "functional polymer design", and "biological evaluation technology".

The foundation of our business activities is our corporate principle: "We contribute to the society in harmony with the environment based on our excellent technologies, products, and services". We believe that implementation of this principle is our CSR activities. We will continuously take our utmost efforts to fulfill our corporate responsibilities, including enhancing management transparency, strengthening compliance, taking environment into consideration, and promoting social contribution activities.

Furthermore in our midterm business plan for FY 2013 to 2015, "Vista 2015 Stage II", we set our corporate vision as "a corporation that contributes to human survival and development" and provide values that are useful to the society. While implementing the plan, we will brush up our CSR activities and try to become a corporate group that is trusted by all stakeholders.

We just released our first CSR Report. I hope that it will help you understand our corporate activities.

NISSAN CHEMICAL INDUSTRIES, LTD.
President

Kojiro Kinoshita

Corporate Ethos Structure

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

Basic policies

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

Guidelines for action

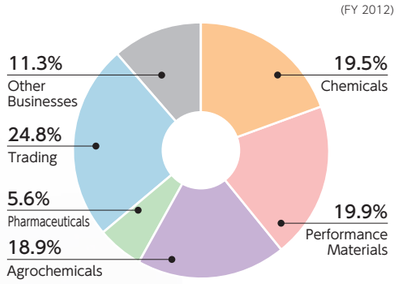
(1) We observe the laws in Japan and overseas, and conduct good business activities as a member of the international community.
(2) We appropriately disclose corporate information and secure the transparency of business administration.
(3) We voluntarily and proactively engage in activities to protect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

Corporate Overview

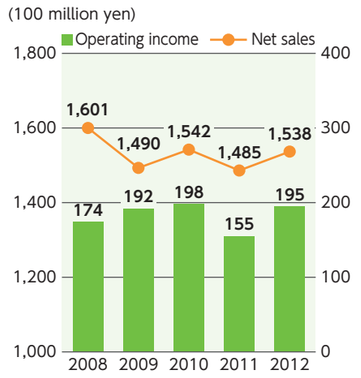
- Corporate Name: NISSAN CHEMICALS INDUSTRIES, LTD.
- Head Office: 7-1, Kanda Nishiki-cho 3-chome, Chiyoda-ku, Tokyo 101-0054, Japan TEL 03-3296-8111
- Founded: 1887
- Capital stock: 18,942 million yen (as of end of March 2013)
- Major businesses: Manufacturing and sales of chemicals, electronic materials, agrochemicals, and pharmaceuticals.

- Group corporations
  - Domestic
    - Nissei Corporation
    - Nissan Butsuryu Co., Ltd.
    - Nissan Green & Landscape Co., Ltd.
    - Nissan Engineering, Ltd.
    - Environmental Technical Laboratory, Ltd.
    - Nihon Hiryo Co., Ltd.
    - Sun Agro Co., Ltd.
    - Clariant Catalysts (Japan) K.K.
    - Nippon Phosphoric Acid Co., Ltd.
  - Overseas
    - Nissan Chemical America Corporation
    - Nissan Chemical Europe S.A.R.L
    - NCK CO., Ltd.
    - Nissan Chemical Agro Koria Ltd.
    - Nissan Chemical Taiwan Co., Ltd.
    - Thin Materials GmbH

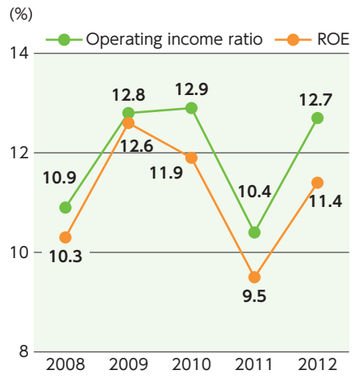
Sales Ratio by Business Segment (consolidated)



Consolidated net sales/ Consolidated operating income

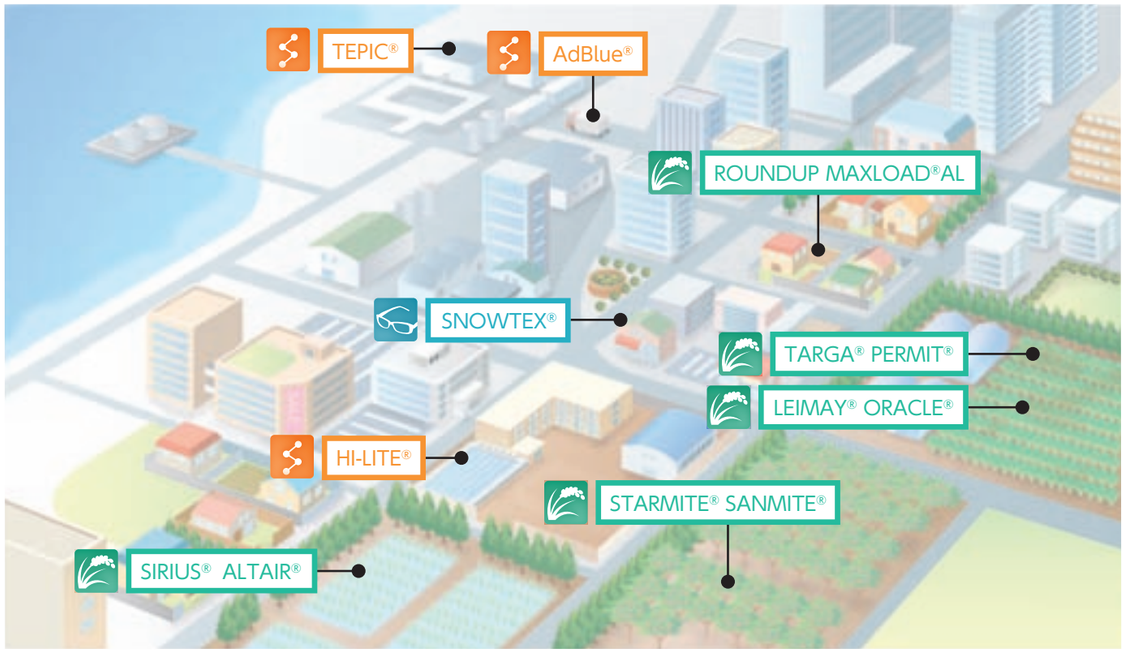


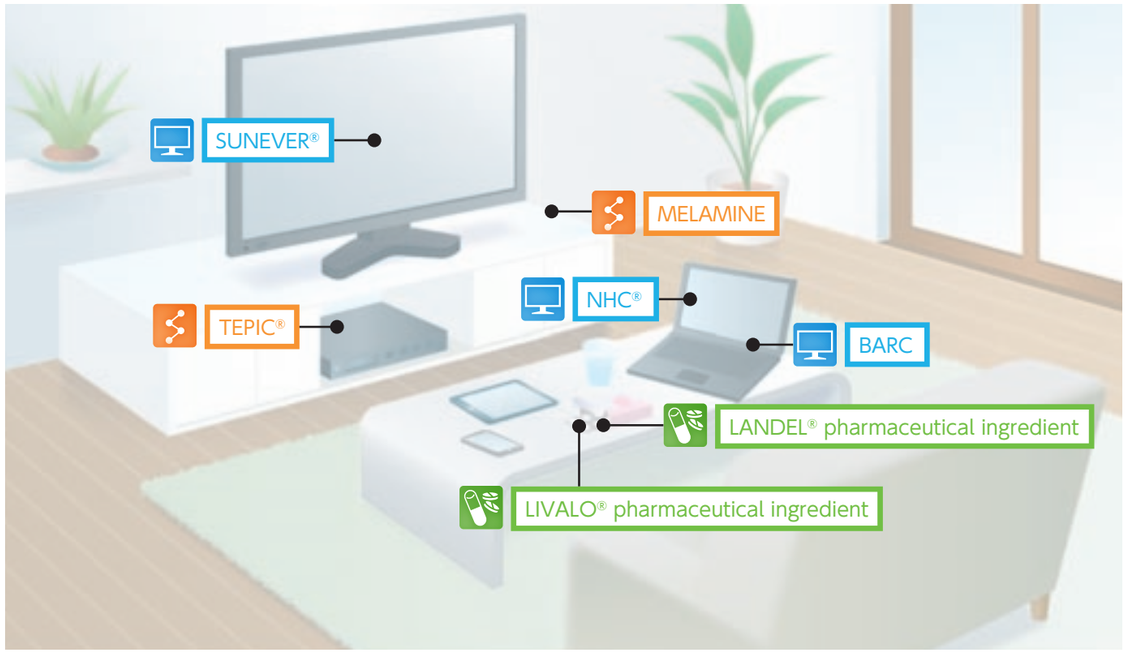
Major management index



Contribution to the Society through Business and Products

We introduce our three core business area and our products that are widely used in society.





Performance Materials

Electronic Materials

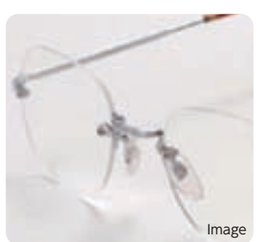
- SUNEVER®
  (polyimide resin for coating the liquid-crystal glass)
- NHC® (insulating hard coat for LCD)
- BARC
  (anti-reflective coating for semiconductor lithography)
- OPTIFOCUS® (coating for imaging sensor)


Image


Liquid crystal television

Inorganic Materials

- SNOWTEX®
  (polishing agent, surface treatment material)
- ORGANOSILICASOL
- SUNCOLLOID®
- CELNAX® (antistatic agent, heat ray shield material)
- NanoUse® (refractive index adjustment material)



Image


Image

Life Science

Agrochemicals

Herbicides
- SIRIUS®
- PERMIT®
- ROUNDUP MAXLOAD®
- TARGA®
- ALTAIR®

Insecticide
- STARMITE®
- SANMITE®

Fungicide
- LEIMAY®
- ORACLE®
- GREATUM®
- IKARGA®


ROUNDUP MAXLOAD®AL


STARMITE®


LEIMAY®

Pharmaceuticals

- LIVALO® pharmaceutical ingredient (anti-cholesterol agent)

- LANDEL® pharmaceutical ingredient (anti-hypertension agent)

New medicines under development
- NT-702 (asthma care, arteriosclerosis obliterans treatment agent)
- NTC-801 (anti-arrhythmic agent)
- NIP-022 (thrombocytopenia treatment agent)

Chemicals

Chemicals

- MELAMINE (adhesive agent for wood products)
- High purity agent
- High-grade urea solution (AdBlue®)
- FINE OXOCALL®
- Other major products
  Ammonia, nitric acid, sulfuric acid, chemicals for construction, etc.
- TEPIC® (raw material for performance material)
- MELAMINE CYANYRATE (MC)
- PHOSMEL® (flame retardant)
- HI-LITE®
  (sanitizing agent, disinfectant)
- NISSAN REISHI

Development of Environmentally Friendly Products

We will continuously contribute to the society by offering environmentally friendly products to our customers.

High-grade urea solution, “AdBlue®”

AdBlue® is a urea solution used in the “Urea SCR (selective catalytic reduction) system”, which is a type of exhaust purification technology. By spraying it on the exhaust from diesel vehicle, it will convert nitrogen oxides (NOx) into harmless nitrogen and water.

In accordance with tightened regulation of exhaust from vehicles, the demand for AdBlue® is increasing year by year, and we expect that this trend will continue in the future. To respond to the increasing demand, we installed manufacturing facilities at Toyama Plant in 2012, and currently we have supply locations in Kanto, Hokkaido, Hokuriku and Tokai regions.

Taking into consideration the handling of AdBlue® for the users, we offer various packages of AdBlue® such as for tanker, for container, in 200L drums, and in small boxes.

Diesel vehicle using “AdBlue®” (image)

Nucleating agent for polylactic acid, “ECOPROMOTE®”

The ECOPROMOTE® series are additive agents for polylactic acid (PLA), which is a bioplastic derived from plants such as corn. PLA is one of the most commercially used bioplastic of the world. However, because it has issues with processability and heat resistance, the application of PLA has been limited. ECOPROMOTE® has a function to facilitate crystal growth of PLA, has high heat resistance, and rapid moulding is possible. Therefore, it is used for durable products such as electronic equipment and printers.

We also developed a new product that has high transparency and heat resistance, which were not possible with conventional technologies. With this product, we will try to expand our business in the food packaging industry that requires transparent heat resistance in the future.

Bioplastic product (image)

Painting-type hole-injecting materials for organic light-emitting diode (OLED), “ELsource®”

The ELsource® series are the painting-type hole-injecting materials for OLED.

OLED is used for environmentally friendly illumination with low power consumption and next-generation flat displays. ELsource® is highly soluble in the organic solvent of hole-injecting materials and can be used for uniform formation of thin-membrane at a nanoorder level and for various manufacturing devices with different solvents. It also has excellent electrical material property and contributes to enhancing performance and reliability of the devices.

By highlighting these characteristics, we are marketing ELsource® as materials that help enhance users’ productivity and decrease costs.

OLED lighting (image)

Ultrahigh refractive coating materials, “HYPERTECH® UR Series”

One of the characteristics of LED lighting is long lasting light emission with lower power and long operating life, compared with fluorescent or incandescent light. Because it reduces power consumption and CO_2 emission, LED lighting has been rapidly spreading in recent years. The OLED lighting is also expected to serve as the next generation lighting with small environmental load.

Our company is currently developing the super high refractive coating materials called HYPERTECH® UR-Series. They are composed of only organic substances and their refractive index is over 1.75. Because their transparency, heat resistance, and adhesiveness to various base materials are high, they can be easily painted, which will lead to reducing process cost. Furthermore, by applying thin membrane of HYPERTECH® between electrode and base material or electrode and light source, the efficiency of retrieving light from light source can be improved by maximum of 20%. Currently, we are improving HYPERTECH® UR series in collaboration with lighting manufacturers in order to further improve the efficiency.

LED lighting (image)

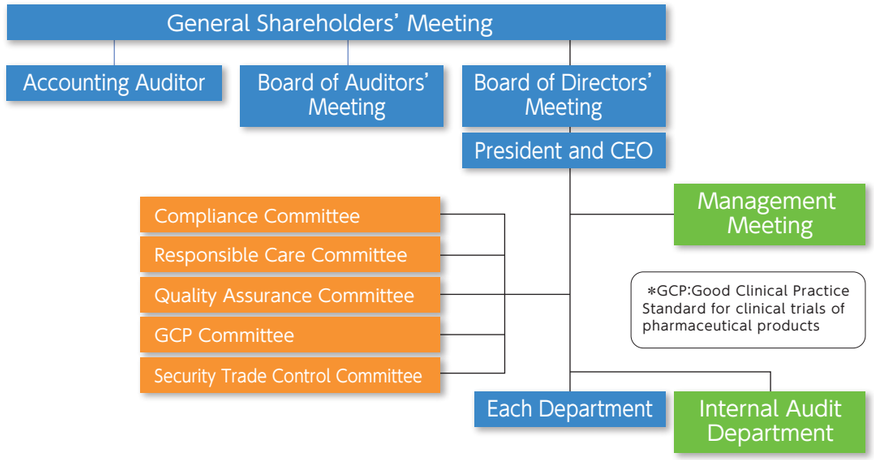
Corporate Governance

Basic Philosophy of Corporate Governance

The corporate governance that our company is aiming at is “the system for sound and efficient management to achieve sustainable and long-term profit for our stakeholders”. In order to establish this Corporate Governance, our Company, which has mid-sized and a wide range of businesses, will have the following system.

(1)To achieve stable management decisions based on the collegial system by many board members who also have executing functions.
(2)To secure soundness through effective supervision function of board members at board meetings.
(3)To secure soundness through appropriate auditing of board members by auditors.
(4)To secure soundness by establishing effectively functioning internal control system.
(5)To establish and efficiently operate internal control system for timely and appropriate decision making needed for management.

Corporate Governance System



Board of Directors’ Meeting	Board of Directors’ Meeting is held regularly every month. 18 Board of Directors and 4 Auditors (3 full time auditors <2 are external auditors>, 1 external auditor) attend the Meeting. Important decisions concerning management are made at the Meeting. At the same time, the Meeting has a function of supervising the business execution of the Board of Directors.
Internal Control	In order for prompt decision making while carefully deliberating important matters to exclude/reduce business risks, the important matters concerning management are decided at the “Board of Directors’ Meeting” or “Management Meeting” which is composed of executive directors, in accordance with our internal regulations (Regulations Concerning Board of Directors’ Meeting and Regulations Concerning Management Meeting). Furthermore, in order to enhance the supervisory function of “Board of Directors’ Meeting”, the matters decided at the “Management Meeting” as well as the results of business execution based on the decision at the “Board of Directors’ Meeting”, etc. are reported at the “Board of Directors’ Meeting”.
Audit system	The Internal Audit Unit is in place, and based on the Internal Auditing Regulations, fair and independent internal audit is carried out. The business contents of the accounting, legal matters, intellectual property, environmental safety/quality assurance departments, etc. are checked from the expert point of view. Our Company’s Board of Auditors’ Meeting is composed of 4 members. In accordance with the audit plan developed at the Board of Auditors’ Meeting, the Auditors attend the Board of Directors’ Meeting and other important meetings and audit the business execution of the Board of Directors.

Compliance

Our Company vigorously promotes compliance throughout our group companies. In addition, we have the “Compliance Committee” in place as an organization that maintains and improves compliance. The chairperson of the Committee is our Company’s president. The Committee provides education and guidance, revises regulations, and develops manuals concerning compliance. Furthermore, it regularly audits compliance status and provides recommendations for improvement, as needed.

We also try to obtain sound social recognition as a good corporate citizen by setting the following compliance rules for all of our group companies’ employees and carrying out our daily actions with sincerity.

As a corporate citizen

Observe various laws and ordinance of the industry
Regulate endowment acts and political donations
Break relationship with antisocial forces
Observe antitrust laws
Observe fair trade and Subcontract Proceeds Act with our suppliers
Prevent illegal competition
Observe security trade control related laws and ordinance
Observe export/import related laws and ordinance
Prohibit provision of excessive entertainment and gifts
Prohibit bribery to foreign public servants, etc.
Implement legal marketing and advertisement

As a manufacturer

Secure safety of products
Maintain environment
Implement safety and disaster prevention measures

As a public corporation

Disclose management information
Carry out appropriate accounting processing

As a stakeholder of the Company

Prohibit conflict of interest
Appropriately use corporate asset
Prohibit insider transactions

As a member who forms the workplace

Observe work regulations
Respect for human rights, prohibit discrimination
Prohibit sexual harassment
Protect privacy
Secure safety and health of workplace
Prohibit political and religious activities

As a person who deals with work-related information

Appropriately manage company’s secret information
Appropriately use information systems
Appropriately manage personal information
Protect intellectual properties

Consultation Hotline

Employees can directly report to the Compliance Committee through the hotline.

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

Risk Management System

Led by the Chief Risk Management Officer (CRO) appointed by the Board of Directors’ Meeting, we set the Risk Management Office and assign Risk Managers in each department, office and affiliate. In collaboration with the various Committees including Compliance Committee, they extract and evaluate risks of non-compliance of their workplace, check the implementation status of countermeasures against the risks, strengthen risk and emergency responses systems, and develop Business Continuity Plan (BCP).

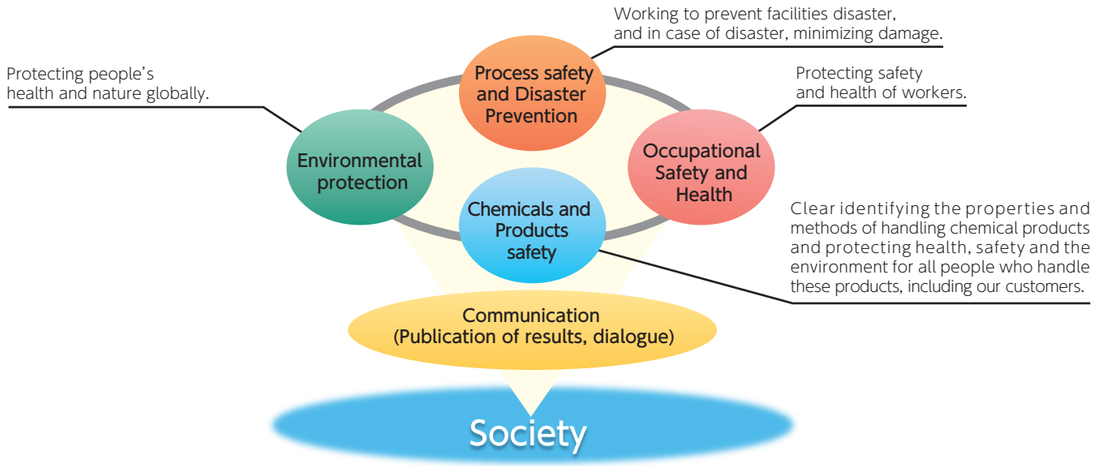
We also carry out risk management meeting that is composed of CRO, Risk Managers, and the Risk Management Office. At the meeting, information concerning risk management of the entire corporate group is shared through annual plan of risk management activities, annual review and activity report from each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

CSR Activities

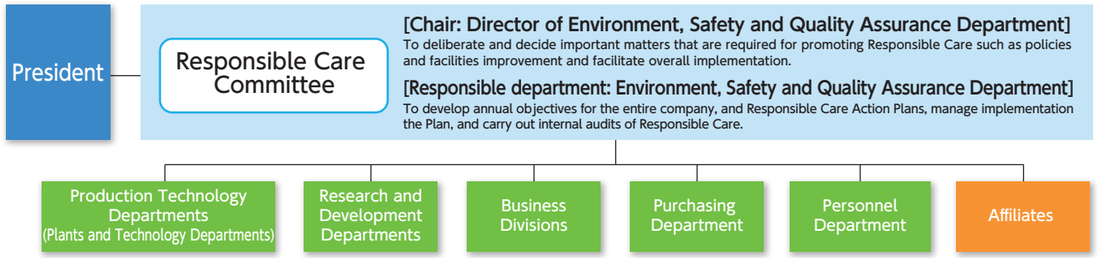
Promotion of Responsible Care Activities

Contents of the Responsible Care Activities

The Responsible Care Activities include all of the following activities for all parties who manufacture or deal in chemicals. As a member of the Responsible Care Committee of Japan Chemical Industries Association, our Company declares implementation of the "voluntary actions to ensure to protect environment, safety and health in all lifecycle, from development through to manufacture, use and disposal of our products".



Responsible Care Management System

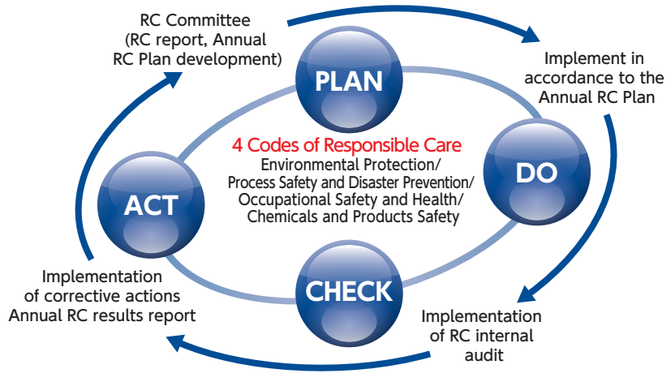


Principles for Responsible Care

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

Practice of Responsible Care

Our Company's Responsible Care Activities are implemented in accordance with the annual schedule based on the PDCA cycle, to be aimed continuous improvement year by year.



【Responsible Care Internal Audit, Auditee Sites】

[Plants]	Sodegaura Plant, Saitama Plant, Toyama Plant, Nagoya Plant, Onoda Plant
[Laboratories]	Chemical Research Laboratories, Biological Research Laboratories, Electronic Materials Research Laboratories (Funabashi, Toyama)
[Group companies]	Nissan Butsuryu, Nissan Green & Landscape, Nissan Engineering (Headquarters, Chubu office), Environmental Technical Laboratory, Nihon Hiryo (Shinmachi Plant, Handa Plant), Sun Agro (Toyama Plant, Osaka Plant), Hokkaido Sun Agro (Hakodate Plant, Sunagawa Plant), Nippon Phosphoric Acid

Critical Challenges and Results of Responsible Care

◎:Goal achieved ○:Goal almost achieved △:Goal not achieved

RC items	Basic principle	FY 2012 Activity results	Evaluation	Featured pages
Management system	①Deepening of the management system	Responsible Care internal audit was carried out in the plants, laboratories and group companies.	◎	P12
	②Thoroughness of compliance with laws and ordinance	Compliance status is confirmed at the Compliance Committee.	◎	P10
Environmental Protection	①Reducing emission of substances subject to the PRTR Law	Reduced emission amount by 2.3 tons (53%) compared with the last year.	◎	P19
	②Reducing emission of hazardous air pollutants	Almost the same as the last year.	○	P19
	③Reducing industrial wastes	Increased generated wastes by 500 tons. Decreased recycled amount by 600 tons.	△	P21
	④Reducing emission of greenhouse effect gases	Reduced emission amount by 11,000 tons (approximately 2%) compared with last year.	◎	P18
Process Safety and Disaster Prevention	①Implementation of risk evaluation prior to installing new facilities or beginning new process.	Prevented facilities troubles by conducting 110 cases of prior risk assessment concerning manufacturing.	◎	—
	②Implementation of emergency response training.	Carried out trainings addressed by the characteristics of the locations (i.e. earthquake, tsunami) of plants and laboratories.	◎	P16
Occupational safety and health	①Reducing the number of occupational accidents	Reduced the number of occupational accidents including occupational not accompanied by lost work time from 25 (last fiscal year) to 22 (this fiscal year) as the entire the group companies.	◎	P16
	②Strengthening safety guidance for on-site collaborating companies	Participated in the safety meetings of collaborating companies and supported their activities.	◎	P16
Chemicals and products safety	①GHS safety labels and classification for SDS and containers	Responses are completed.	◎	P22
	②Appropriate management of chemicals	Reconfirmed the management of Poisons and deleterious substances and, raw materials of narcotics, etc.	◎	P22
Communication with the Society	①Disclosure of information	The Environment and Safety Report was issued in October 2012. It is also available on our Website.	◎	—
	②Promotion of dialogue with the society	Plant tours were held and community dialogues about Responsible Care was convened in the Aichi District.	◎	P25

Acquisition of Certificate for The Environment Management System (ISO14001)

All of our Company's plants (5 plants) have acquired the ISO14001 certificate, an international standard for environment management system, and it has been maintained/requalified by the review organization. We are continuously taking actions to reduce environmental load.

Nissan Chemical Plants

Saitama Plant	(October 2000)
Onoda Plant	(October 2000)
Nagoya Plant	(July 2001)
Sodegaura Plant	(October 2002)
Toyama Plant	(March 2003)

Affiliates

Clariant Catalysts K.K. Toyama Plant	(September 2003)
Hokkaido Sun Agro, Hakodate Plant	(December 2005)
Nissei Corporation	(March 2008)
Nissan Green & Landscape	(March 2012)

Labor Practices

Relationships with Employees

Human Resource System

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

Human Resource Development

Our Company believes that the essence of human resource development is "for each employee to try to grow through voluntarily self-improvement". We offer various human resource development opportunities for the employees who wish to "learn" and "grow".

1. Professional staff, General staff

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


Third year self-start


Before promotion to manager position


Strengthening on-site capacity

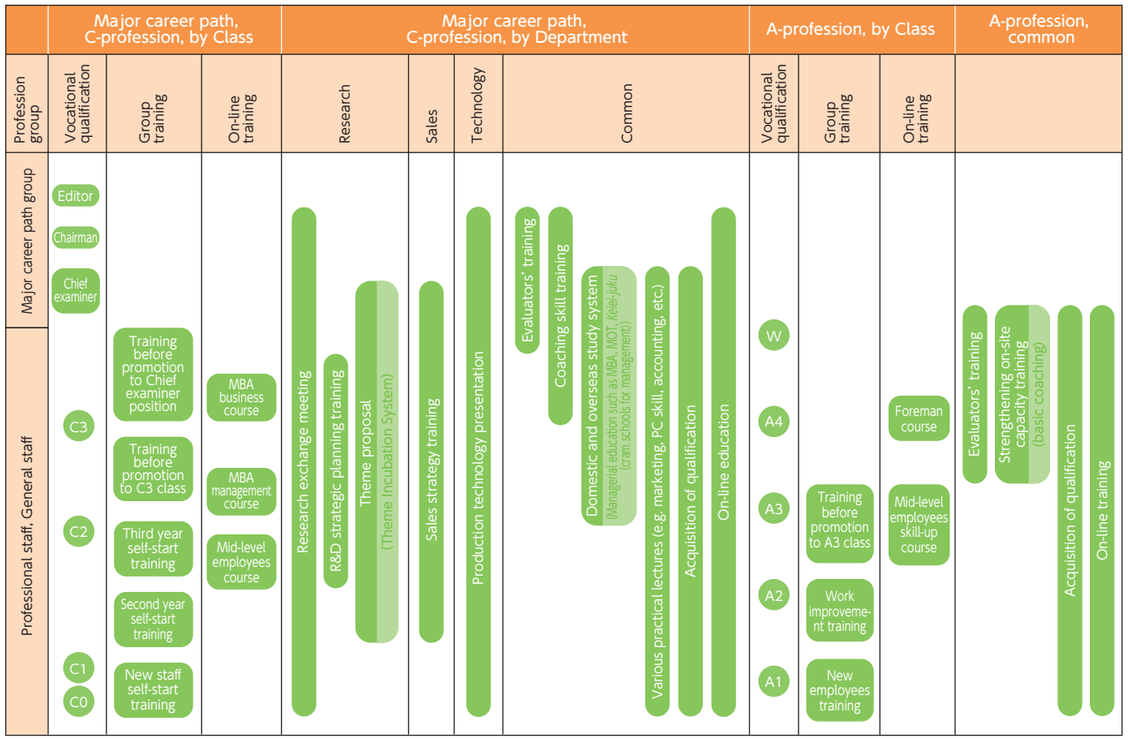
2. Others

Name of system	Content
Evaluator	To learn about the evaluation, basics of HR evaluation, practice of capacity assessment, and capacity assessment communication.
Coaching skill	To acquire coaching skill called "Communication technology to promote voluntary action".
Work improvement	To try to clarify scope of work/role and enhance communication capacity and motivation control capacity.
On-line education	To provide support tools for individual employee to have his/her own vision, have career plan and move up step by step to achieve self-realization.


Coaching skill


Work improvement

Educational Training System



Professional staff : C class (Create class)
Major career path staff : W class (Wisdom class)
General staff : A class (Associate class)

Award System

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

Name	Award winner	Content
Central Award, Operation Department Award, Site Award	President, General manager of Division, Site Director	Awards/rewards are given to the inventions, improvement ideas, or outstanding performance and services that are beneficial for our business.
Excellent invention award	Executive officer responsible for Intellectual Property Department	In order to facilitate improvement of research and development capacity, we reward excellent inventions.

Creating Workplace Environment

Friendly Working Environment

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

Systems, etc. for Work and Life Balance

Names of system	Content
Childcare leave	If certain requirements are fulfilled, the employee can take childcare leave until the child becomes “one and half years old” or until “the first April 20 after the child reaches one year old”.
Spouse child birth/ Childcare support leave	The male employee whose spouse gave birth is allowed to take up to 7 leave days (paid) within 8 weeks from the child’s birth.
Nursing leave	The employee is allowed to take nursing leave to take care of his/her child (children) and spouse up to 20 days per year from the accumulated expired annual leave days.
Short working hours	The employee is allowed to make their designated working hours shorter, up to 2 hours, at the unit of 30 minutes, to take care of child (children) until they reach the 4th grade.
Half a day leave	The employee is allowed to take half a day off as annual leave up to 30 times a year.
Planned annual leave	The Company recommends the employees to take annual leave of 2 days as company-wide planned leave and 3 days as individually planned leave.
Refresh leave	Within 1 year from the time when an employee reaches 50 years old, the company provides 10 consecutive days leave (paid) with financial support.
Re-employment refresh leave	Within 1 month before or after an employee reaches 60 years old, the company provides 3 consecutive days leave (paid).

Respect for Varieties of Human Resources, Characteristics, and Thoughts

At our Company, varieties of people are working in wide range of fields, regardless of their age, gender and nationality.

Item	Number
Female staff employment rate	26.7% (FY 2012)
Female staff at managerial position	1.8% (as of the end of September 2012)
Re-employment rate	68.0% (FY 2012)
People with disability employment rate	1.96% (June 1, 2012) Statutory employment rate 1.8% 2.12% (June 1, 2013) Statutory employment rate 2.0%

Labor-management Relationship based on Straightforward Communication and Mutual Understanding

As good business partners, Nissan Chemical and Nissan Chemical Labor Union collaboratively solve issues such as work-life balance based on good labor-management relationships that had been built in the past.

Occupational Safety and Health/Process Safety and Disaster Prevention

Occupational Safety

Securing safety is the foundation of manufacturing activities. Thus, we consider “Safe and Stable Operation” as the top priority, and try to secure safety and stable operation in collaboration with affiliates and collaborating companies. Aiming at stable operation, we provide training programs for process danger prediction and equipment danger prediction, carry out pre-manufacturing evaluation, and implement planned facilities investment and maintenance.

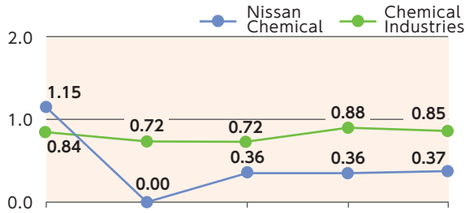
Risk Experiencing and Learning

Safety Results

In FY 2012, there was one lost work time accident, and six accidents that did not require time off from work. Although the number of the former was the same as the previous year, the latter decreased by two compared with the previous year. The accident that required time off from work was caused by heat stroke and was not a serious occupational accident.

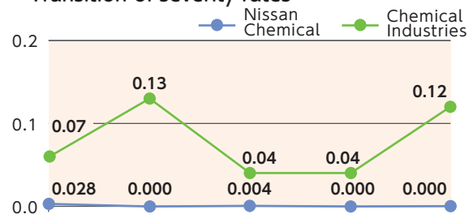
As for the safety results, both frequency rate and severity rate were lower than the average rates of the industry. We will strengthen our safety activities aiming at zero accidents.

■ Transition of lost-work time accidents rates



Lost-worktime accidents rate =
Number of lost time injuries ÷
total number of work hours (per 1 million hours)

■ Transition of severity rates



Severity rate =
Lost days ÷
total number of work hours (per 1,000 hours)

Occupational Health

In order to prevent health hazard and to create comfortable working environment for our employees, we try to improve the work area where powdery substances and chemical substances are handled. We continuously improve the work area by installing equipment to control generation of dust and strengthening local exhaust ventilation system to prevent direct contact with dust and gas.

Process Safety and Disaster Prevention, Emergency Response

At our plants and laboratories, we have our emergency response guidelines in place, taking into account the location and regional characteristics. Based on the guidelines, they offer various training programs such as earthquake disaster prevention, fire extinguishing at an early stage, and communication and reporting so that employees are prepared for emergency situation. Even during the Great East Japan Earthquake, there was no facility trouble or injury at our plants and laboratories. AEDs* have been placed in all locations and employees are encouraged to attend a lifesaving workshop.

(*AED: Automated External Defibrillator)

Emergency drill at a naphtha transport handling facility

Transport accidents drill

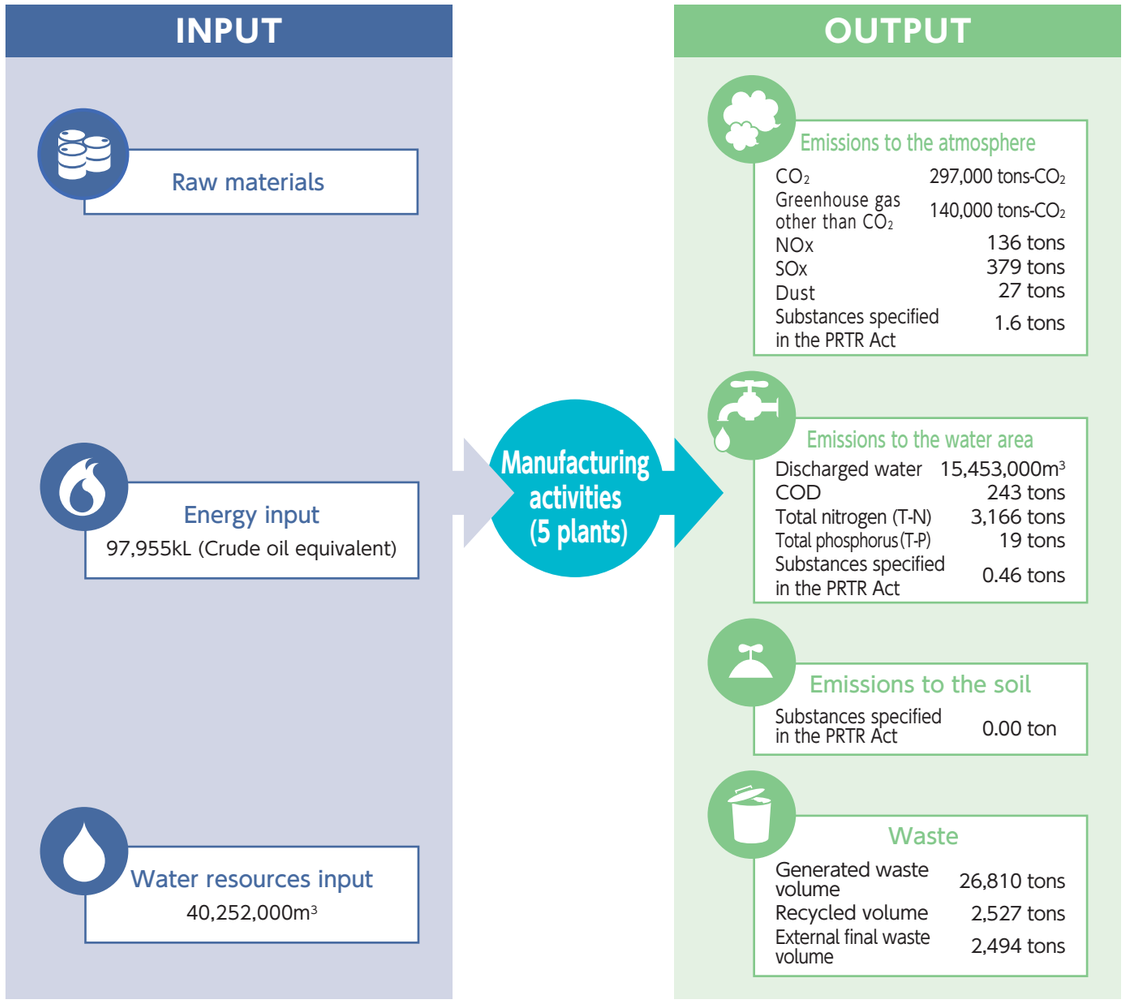
Hazardous materials disaster prevention drill

Lifesaving workshop

Environmental Load from Manufacturing Activities

The Environmental Load from Manufacturing Activities Results Flow shows the entire picture of input for manufacturing products (i.e. chemicals raw materials, energy, water) and output (i.e. products, emission to the atmosphere, emission to water, generated wastes).

FY2012 Environmental Load Results Flow



Energy : Fuel, purchased power and purchased steam to be used for business activities (Fuel and purchased steam are converted into crude oil equivalent value)

Water resources : Tap water, underground water, and industrial water to be used for business activities

Emissions to the atmosphere

CO_2 : Amount of CO_2 that was emitted through business activities

Greenhouse gas other than CO_2 : 4 types of gasses, including CH_4, N_2O, HFC and SF_6

NOx, SOx, dust : Volume of NOx, SOx, and dust included in the emitted gas from each burning facility

Emissions to the water area

Total nitrogen (T-N), Total phosphorus (T-P), COD: Volume was calculated by multiplying the water volume discharged to the public waters by the concentrations of nitrogen, phosphorus and COD.

Waste

Recycled volume : Volume of recycled waste

External final waste volume: The final waste volume fulfilled by waste disposable contractor

Prevention of Global Warming

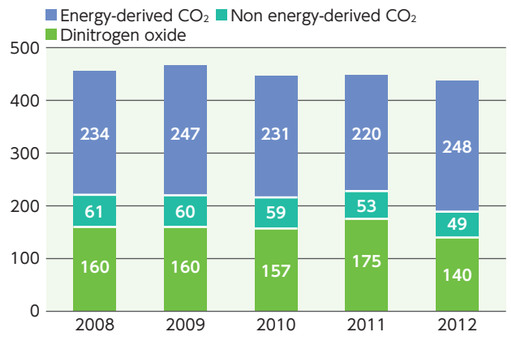
Greenhouse Gas

In accordance with the "Act on Promotion of Global Warming Countermeasures", we calculate the volume of CO_2 and other greenhouse gas emissions and submit our report to the government. Furthermore, since FY2009 when the Act was amended, we have been reporting the total emissions of all sites including headquarters, sales sites and laboratories.

Although the energy-derived CO_2 emissions from our plants in FY 2012 increased from last year due to increase in CO_2 emissions coefficient accompanied by suspension of nuclear power plants, the entire greenhouse gas emissions slightly decreased from last year as a result of reduction in N_2O emissions.

Half of the greenhouse gas emissions of our Company is composed of N_2O. N_2O can be used for our product as anesthesia gas for medical purposes. Most of the N_2O emissions are exhausted from the nitric acid plant and the global warming potential (GWP) value is 310 times larger than that of CO_2. Therefore, it occupies a large percentage of our greenhouse gas emissions.

Transition of greenhouse gas emissions [1,000 tons -CO_2]

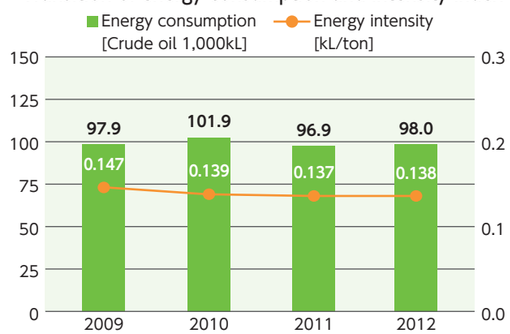


Energy Consumption, Energy Intensity

Our Company is a member of Japan Chemical Industry Association (JCIA). In 2007, JCIA established a target "to make efforts to reduce the energy intensity by 20% from the 1990 level on average from 2008 to 2012". Although the energy intensity (based on simple manufacturing amount) has not changed much since 1990 because product structure has drastically changed, we managed to reduce the energy consumption approximately by 10%.

Since FY 2009 when the "Act on the Rational Use of Energy" was amended, we have been compiling the total energy consumptions of all sites every year and report them together with the energy intensity. Although the energy consumptions in FY 2012 have increased by approximately 1,000 kL of crude oil equivalent, the energy intensity was almost the same as that of the last year. We will continuously make efforts in reducing our energy consumptions and improve the energy intensity.

Transition of energy consumption and intensity index



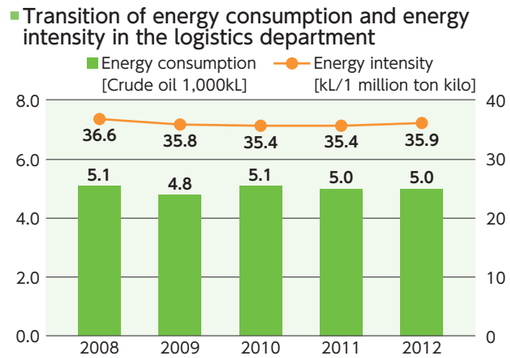
(Consumption rate: Energy consumption per unit production)

Our Actions for Saving Energy in Logistics

As a consigner, we are streamlining the use of energy for transportation. Although our energy consumption in crude oil equivalent in FY 2012 was almost the same as that of the last year, our energy intensity slightly deteriorated partially due to reduction in transportation volume.

Our Group Company, Nissan Butsuryu, that handles logistics for us, will continue making efforts to improve energy intensity by promoting modal shift, updating to energy-saving vehicles and promoting green driving.

Transition of energy consumption and energy intensity in the logistics department



Control of Chemical Substances and Emission Reduction

Confirming the Intended Use of the Substances Subject to the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

The Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. issued in 2012 stipulates that companies that manufacture or import 1 ton or more of chemical substances must notify the amount of manufacturing or import, and intended use for each year. We have 35 general substances and 1 priority assessment substance that are subject to this Act. For these substances, we try to confirm consignees' intended use and report the information to the government.

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

Out of 462 substances that are subject of notification in the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof, issued in 2012, our company used 66 substances. The major substances are formaldehyde and normal-hexan. The former is used as reaction solvent and the latter is naphtha-derived and used as fuel or raw material.

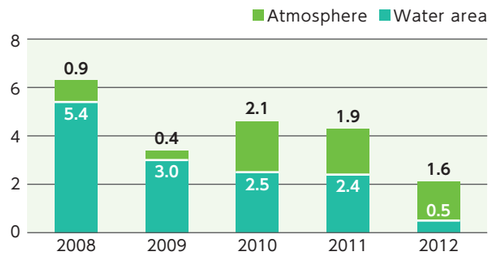
The total emissions of FY 2012 were 2.1 tons, which were almost half of that of FY 2011 (4.3 tons). We managed to achieve it as a result of dissolving formaldehyde in activated sludge, instead of discharging it in water area. 1.6 tons were discharged to the atmosphere, and 0.5 tons to the water area. There was no emission to the soil.

■Reduction of emissions of substances specified in PRTR

Name of substance	Emission volume (ton)				
	2008	2009	2010	2011	2012
1, 2-dichloroethane	0.0	0.0	0.0	0.0	0.0
Formaldehyde	5.1	2.3	2.6	2.4	0.5
Boric acid and its chemical compound	0.5	0.6	0.0	0.0	0.0
Normal-hexan			1.5	1.2	1.2
Others	0.7	0.5	0.5	0.7	0.3
Total	6.3	3.4	4.6	4.3	2.1

(Normal-hexan became subject to notification from FY 2010.)

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

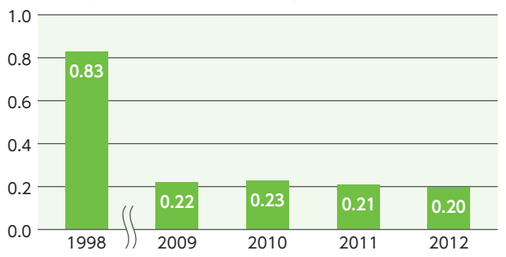


Reducing Emission of Hazardous Air Pollutants

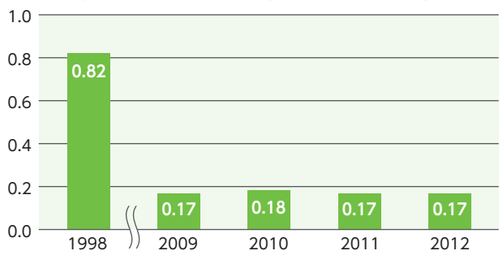
The chemical industries in Japan selected 12 substances out of 23 "priority harmful air pollutant substances" specified by the government and have developed voluntary management plans to reduce emissions of these substances. Out of 12 substances, our company was handling 3 substances. However, after the countermeasure construction in 2006, we are not discharging 1, 2-dichloroethane in the atmosphere any more. Furthermore, we are also reducing the emissions of benzene and formaldehyde by sealing the facilities, combustion treatment of exhaust gas, etc.

Device to remove harmful air pollutant

■Reducing emission of harmful air pollutant (benzene) [ton]



■Reducing emission of harmful air pollutant (formaldehyde) [ton]

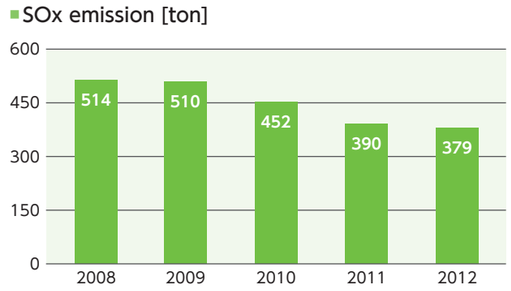


Environmental Load Reduction

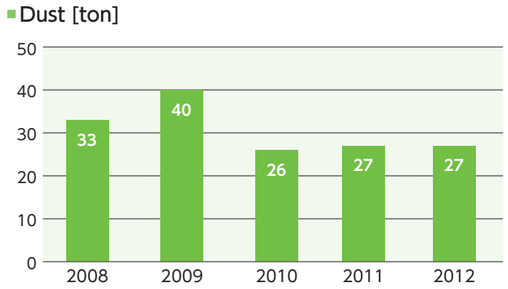
Control of Exhaust Gas (SOx, NOx, dust)

For SOx, NOx and dust which are emitted from boiler, etc., we not only comply with the emission criteria specified in the "Air Pollution Control Law" but also observe regulation values which are determined based on the agreement with the region. As a result of installing de-nitrification equipments and electrostatic precipitators and promoting fuel conversion, the emission volume is maintained at low level.

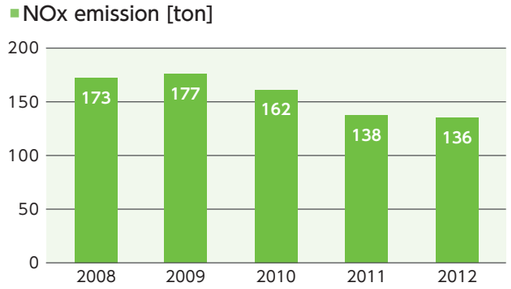
■SOx emission [ton]



■Dust [ton]



■NOx emission [ton]

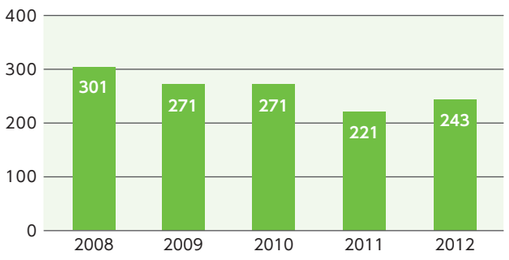


Control of Water Pollutant Emission (COD, total nitrogen, total phosphorus)

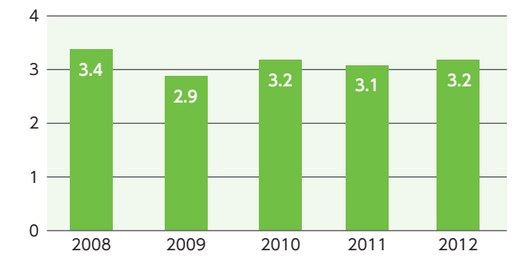
As for the emission volume of chemical oxygen demand (COD), total nitrogen and total phosphorus in the discharged water, we also observe emission criteria specified by the "Water Pollution Prevention Act" and regulation values which are determined based on the agreement with the region.

We try to strengthen the monitoring of the discharged water by installing monitoring cameras for environmental load substances and oil film thickness measuring apparatus and adding pH meters.

■COD emission [ton]



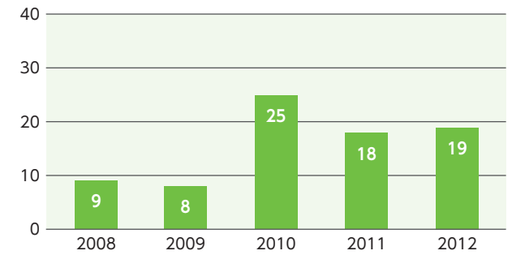
■Total nitrogen [1,000 tons]



Exhaust gas combustion device

Discharged water treatment facility

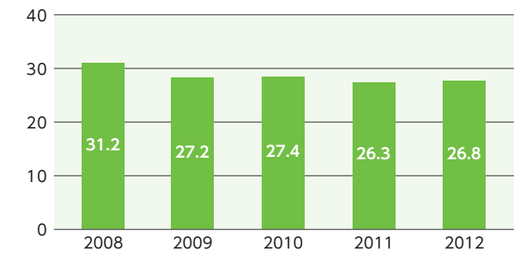
■Total phosphorus [1,000 tons]



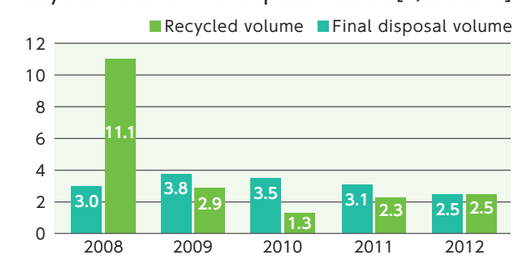
Reduction of Disposal of Waste

We try to reduce generation and disposal of industrial waste and strictly control the discharged waste to be appropriately disposed of. When disposal is commissioned with external contractor, we use the industrial waste manifests to check and control the transfer amounts and destination of the waste. If necessary, we visit the site and review the process until the final disposal. We also try to reduce the volume of final disposal by recycling generated sludge for use in the raw materials of cement or road base materials.

■Generated volume [1,000 tons]

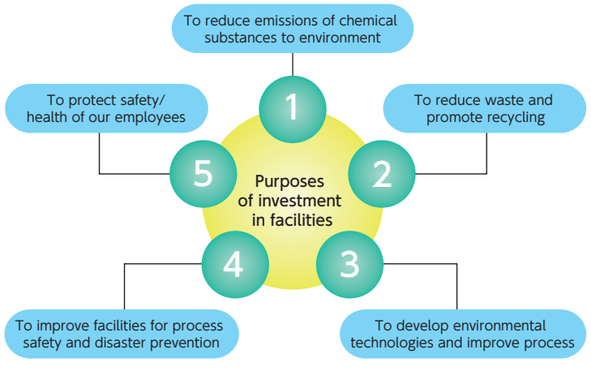


■Recycled volume/Final disposal volume [1,000 tons]

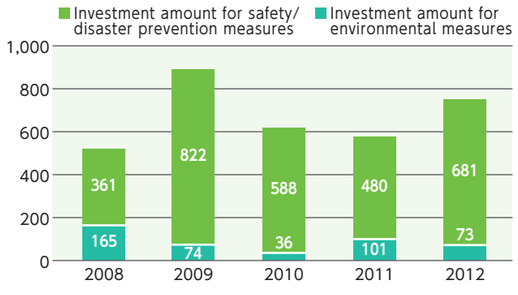


Investment in Facilities for Environment/Safety

Aiming at further reduction in environmental load and securing safety, we carry out planned investment in facilities.



■Investment amount for environmental facilities/ safety facilities [1 million yen]



■Major investments in facilities [1 million yen]

FY2010		FY2011		FY2012	
(Toyama Plant) Explosion-proof work	52	(Sodegaura Plant, Goi Works) VOC measures	39	(Toyama Plant) Work for measures against facilities deterioration	290
(Toyama Plant) Measures to reduce heavy physical labor	10	(Toyama Plant) Explosion-proof work	35	(Nagoya Plant) Renewal of sulfate drying tower	150
(Saitama Plant) Measures to prevent dust explosion	16	(Saitama Plant) Measures to prevent dust explosion	28	(Onoda Plant) Work to prevent facilities deterioration	126
(Nagoya Plant) Strengthening waste water control system	7	(Sodegaura Plant) Exchanging filter for products filtration	12	(Saitama Plant) Work to suspend exhaust gas incinerator	65

Relationships with Consumers/Clients

Safety of Products

A new regulation on chemicals called REACH*1 was issued in Europe in June 2007. In accordance with REACH, the industry is responsible for providing risks and safety information of chemicals to their users as well as collecting and registering information on the customers' intended use and handling amount of chemicals in EU. Nissan Chemical completed its pre-registration in 2008 and completed the full registration of the high export volume products in 2010. We also take actions and observe the Regulation about Classification, Labeling and Packaging (CLP) of Substances and the Mixture that came into effect in 2009.

In order to ensure safety use of our products, we provide safety data sheets (SDS) that correspond with GHS*2 for all of our chemicals and electronic materials products and attach warning labels on the containers. For the exporting products, we are also developing SDS in line with GHS and labels in correspondence with the regulations of importing countries, using their official languages.

Furthermore, in order to ensure safety in the process of distribution of the products and appropriately respond to accidents, we are introducing yellow cards for containers. We advice transporters to always carry the yellow cards and regularly conduct accident response training.

GHS Corresponding Safety Data Sheet for products

Yellow card

Container label

[Explanation of terms]

*1 REACH (Registration, Evaluation, Authorization and Restriction of Chemicals): A new EU regulation to control chemicals for protecting human health and environment.

*2 GHS (Globally Harmonized System of Classification and Labeling of Chemicals): A globally harmonized system concerning classification and labeling of chemicals.

Response to Product Liability (PL)

Our Company's PL principle, "to provide products and services to meet customers' satisfaction", is included in our quality policy.

In order to secure safety of products and prevent accidents using our products, we provide highly reliable products to our customers from the research and development to manufacturing, consumption and disposal.

Security Trade Control

The importance of security trade control is increasing in the international society. Our Company established the Compliance Program for observing the Foreign Exchange and Foreign Trade Control Law and appropriately controlling export, in order to contribute to maintaining international peace and security. We also established the system to implement the CP.

The Security Trade Control Committee, which is directly under the CEO (President), is chaired by the Director of Environment, Safety and Quality Assurance Department and promotes compliance with export related laws and regulations and ensures operation and control of the CP.

During the FY 2012, we revised the CP to correspond to the amendment of the Export Trade Control Order.

Privacy Policy

Our Company acknowledges that it is a corporate social responsibility to appropriately handle information that can identify the specific individual (personal information) such as name, address, telephone number, mail address, etc. that is known by business activities, etc. We therefore comply with the Personal Information Protection Law and other relevant laws and ordinance as well as carefully handle personal information as follows to protect our customers' privacy.

- Purpose of use of personal information
  We will use our customers' personal information only to provide our products and services to them as well as to provide information concerning our products and services to them. We will not use our customers' personal information for any other purposes.
- Management and safety control measures of personal information
  We try to appropriately manage our customers' personal information, maintain and improve our security and take safety control measures. We may disclose the information to the company entrusted with operations for the purpose of delivering goods, etc., as needed. In that case, we will place an obligation on the entrusted operator by contract to properly manage the personal information and carry out supervision.
- Provision of personal information to a third party
  We will not provide personal information to a third party, unless otherwise we obtain agreements from our customers or specified by the laws and ordinance.

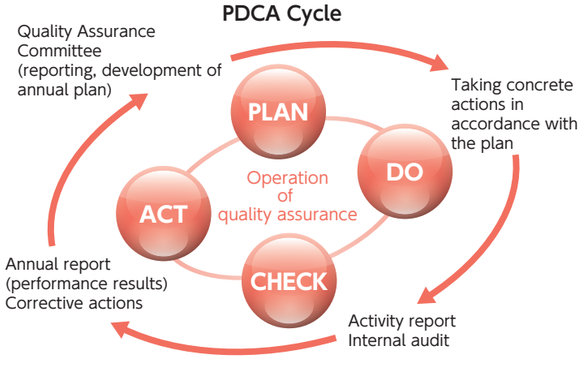
Quality Assurance

Quality Assurance Activities

Our Company's quality assurance system has been receiving high recognition from our customers for its excellent products and services within Japan and world wide based on the quality ISO in each plant.

In the life cycle of products from development to commercialization, we apply quality management system (QMS) such as ISO 9001 in order to respond to laws, regulations and needs from our customers. By implementing the quality objectives, specified by the quality policy, in accordance with the annual schedule based on the PDCA cycle, we continuously improve our quality management system and business operation year by year.

We will continuously strengthen our capacity to respond to the needs of increasingly sophisticated and diversified market and try to achieve sustainable development as a corporation that contributes to the continued existence and development of the human race.

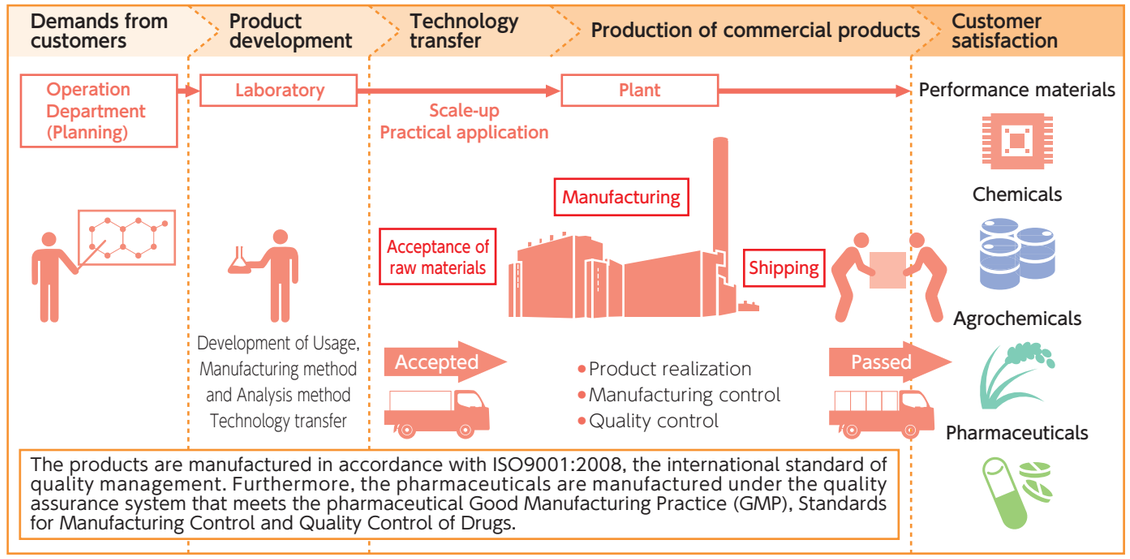


Quality Policy

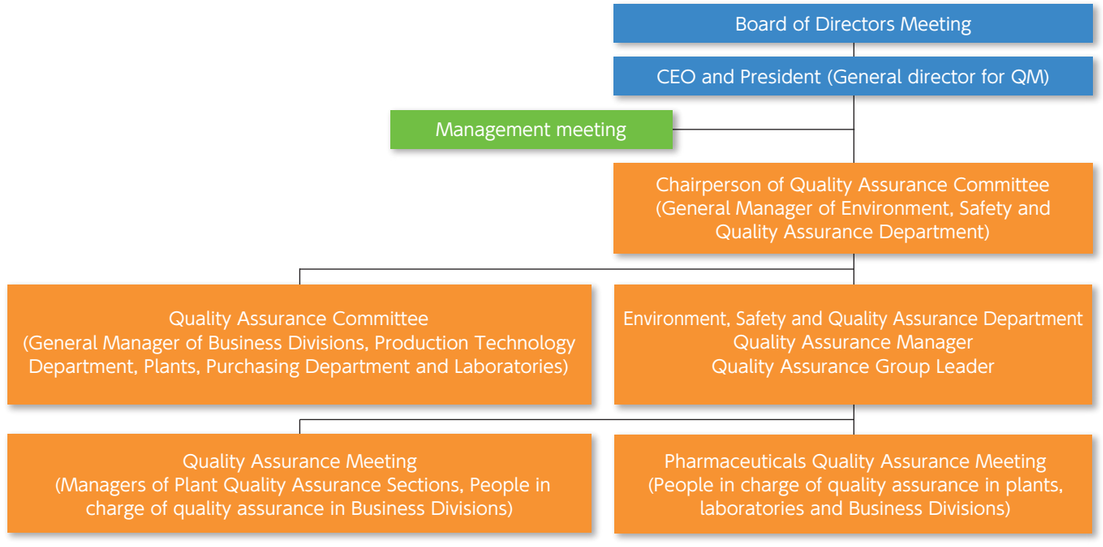
"To provide products and services to meet the customers' satisfaction"

Quality objectives (achieving the quality policy)

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



Quality Management System (QMS)



Acquisition of Certificate for QMS (ISO9001)

All of our Company's plant (5 plants) have acquired and maintained the ISO9001, the international standard for quality management system, and have been continuously making efforts to stabilize the quality and improve our products and services.

Nissan Chemical Industries

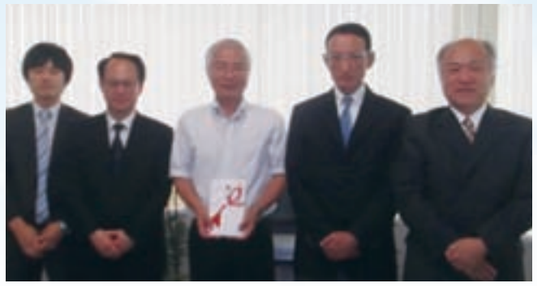
Sodegaura Plant	(June 1994)
Toyama Plant	(July 1994)
Nagoya Plant	(July 1994)
Onoda Plant	(July 1994)
Saitama Plant	(July 1996)

Group companies

Nippon Phosphoric Acid Co., JP	(August 1996)	Nissan Engineering, Ltd.	(March 2001)
Clariant Catalysts K.K. Toyama Plant	(November 1997)	Environmental Technical Laboratory, Ltd.	(March 2002)
Hokkaido Sun Agro Co., Ltd. Hakodate Plant	(December 2000)	Nissan Green & Landscape Co., Ltd.	(August 2002)
Nissan Butsuryu Co., Ltd. Toyama Branch	(December 2000)		

Social Contribution Activities

As part of the local contribution activities, our Company is conducting “Social Welfare Fund Raising” activities since 1997. The employees make a certain amount of contribution to the reserve funds every month, and the Company donates the matching amount. The funds will be used for the social welfare of the local communities. Specifically, we offer “support grant for welfare organizations”, “support grant for environment protection and environment beautification”, etc. In FY2012, we donated funds to the total of 25 organizations including social welfare council, social welfare facilities, etc. in the local communities.



Off-Site Class, Off-Site Lecture

The Chemical Research Laboratories offered off-site chemical experiment classes at nearby elementary schools as part of their support activities for science education. The Biological Research Laboratories invited students from junior high schools in the city to experience the work of the Laboratories.

At the “Seminar for Sound Management of Chemicals” held by Aichi prefecture and Nagoya city, we made the presentation on how we manage chemical substances for other companies handling chemicals.

Work experience
(Biological Research Laboratories)

Chemical experiment off-site class
(Chemical Research Laboratories)

Lecture at the Seminar for
Sound Management of Chemicals

Plant Tour, Communities Outreach

We offered plant tours for the nearby schools and local community people. At Toyama Plant, 9 tours were held in FY2012 and the total of 248 people visited the Plant. In November 2012, as a nearby area social event, Saitama Plant invited representatives from government and mayors from nearby districts for the plant tour and their activities for environment were explained to the participants. As the leading company of the Responsible Care Community Dialogue, hosted by the Japan Chemical Industry Association, Nagoya Plant planned and supported the organization of the 2012 Aichi area regional dialogue.

Plant tour
(Toyama Plant)

Nearby area social event
(Saitama Plant)

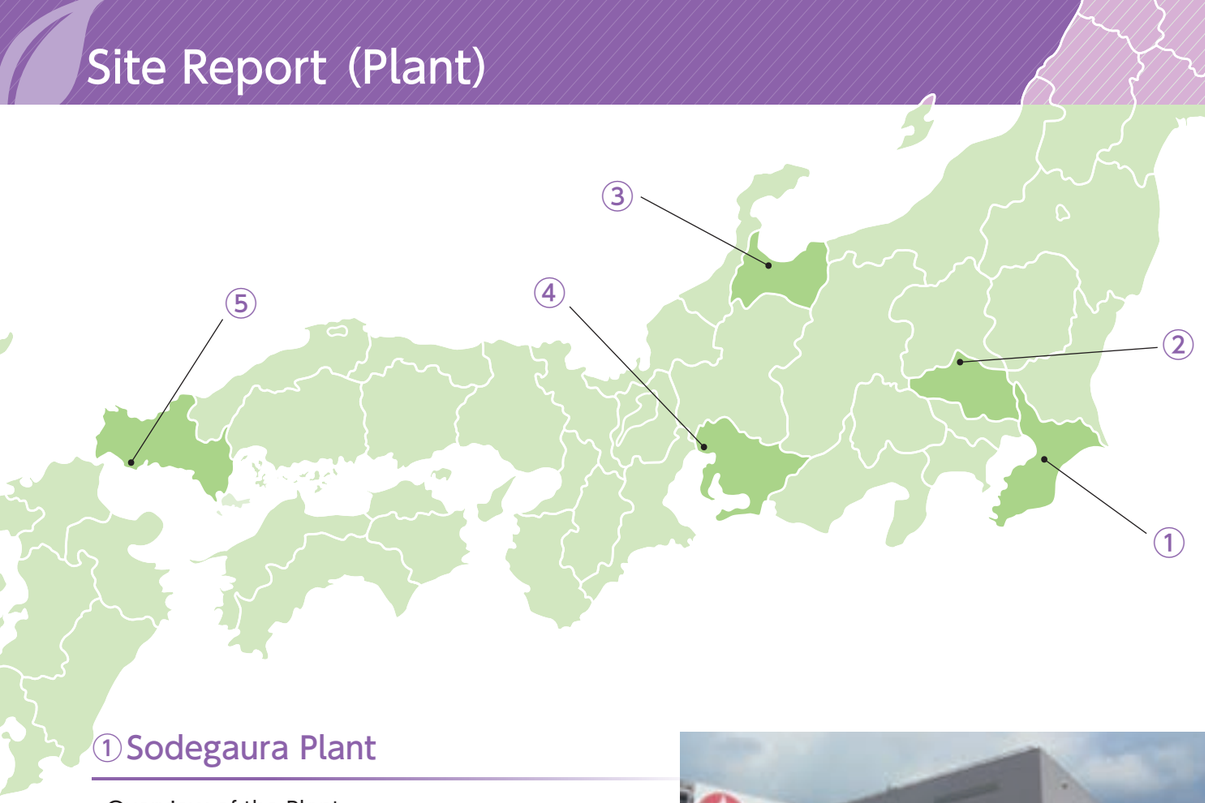
Support the organization of the Aichi area regional dialogue (Nagoya Plant)

Beautification Activities

Onoda Plant planted flowers along the road in front of the company in collaboration with local community people in spring and fall, as an action to fill the Seimi Street with full of flowers. Other plants are also collaborating with regional activities and being actively involved with beautification activities around the plants.

Action to fill the Seimi Street with flowers
(Onoda Plant)

Community clearing activity
(Sodegaura Plant)



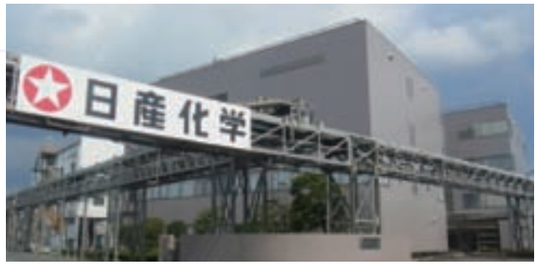
①Sodegaura Plant

Overview of the Plant

- Location 11-1, Kitasode, Sodegaura, Chiba (Sodegaura Plant Goi Works) 12-17, Goiminamikaigan, Ichihara, Chiba
- Plant manager Director, Takeshi Iwata
- Number of employees 170
- Major production items
  [Inorganic colloid materials] SNOWTEX (colloidal silica sol), ORGANOSOL (organo silica sol), ALUMINASOL (colloidal alumina), CELNAX (inorganic conductive materials), SUNCOLLOID (high refractive index sol)
  [Display materials] SUNEVER (polyimide for LCD), NHC (inorganic coating materials)

Recent environment/safety related topics

- The scope of the environment management system was expanded by adding Goi Works to the system [October 2012]
- Earthquake disaster prevention drill [October 2012]
- Plant-wide 5S activities [October 2012]
  5S (Sorting, Setting-in-order, Shinning, Standardizing, Sustaining the Discipline)



Our actions for environment/safety

Sodegaura Plant is a plant for Nissan Chemical Specialty Chemicals and a development-oriented plant that has the function of both production and development. In order to preserve the irreplaceable healthy global environment, the Plant works on the environment preservation activities with harmonization of business activities and environment.

②Saitama Plant

Overview of the Plant

- Location 235-1, Aza Nishidai, Oaza Jimbohara-machi, Kamisato-machi, Kodama-gun, Saitama
- Plant manager Associate Director, Naoki Matsumoto
- Number of employees 46
- Major production items
  [Rice-paddy herbicide] Gekko granular agent, Comet granular agent, Twin-star granular agent, Ginga granular agent, Sun punch granular agent, Spark star granular agent, Sirius-exa granular agent, etc.
  [Pesticide] Dazuban granular agent, Rugby MC granular agent, Gazette granular agent, Telstar hydrating agent, Elsun hydrating agent, etc.
  [Pesticide/Germicide] Beam prince granular agent, Oryzemate prince granular agent, etc.
  [Germicide] Oracle granular hydrating agent, Horizon DF, Storobie DF, etc.
  [Herbicide for overseas market] Sirius hydrating agent (China, Russia, Venezuela, South Korea, etc.)

Recent environment/safety related topics

- Safety and health education for all contractors [May 2012]
- Emergency life-saving workshop [October 2012]

Our actions for environment/safety

Saitama Plant manufactures agrochemicals. It contributes to stable supply of secure and safe food and actively works on environment preservation and improvement, in order to protect the rich natural environment and regional environment. Furthermore, by using the technique of safe and health management system, the Plant is promoting a creation of safe, hygienic, open and healthy workplace.

③Toyama Plant

Overview of the Plant

- Location 635, Sasakura, Fuchu-machi Toyama, Toyama
- Plant manager Managing Director, Takami Ohno
- Number of employees 395
- Major product items
  [Basic chemicals] Ammonia and its derivative, Nitric acid and its derivative, Sulfuric acid and its derivative, Urea and urea aqueous solution, Melamine and its derivative, etc.
  [High purity products] High purity ammonia, nitric acid, sulfuric acid, high purity nitrogen monoxide
  [Environmental chemicals] Cyanuric acid, Chlorinated isocyanuric ester
  [Inorganic materials] DS abrasive agent (abrasive agent for compound semiconductor), SNOWTEX
  [Performance materials] Melamine cyanurate, Sulfonated melamine resin
  [Electronic materials] BARC (Bottom anti-reflective coating for semi-conductor), Polymide (liquid crystal aligning agent)
  [Organic materials] DAR (Raw material for super fiber)

Recent environment/safety related topics

- Emergency drill at naphtha handling facility for transport [June 2012]
- Gathering for private fire brigade firefighting techniques [August, 2012]
- Plant-wide disaster prevention drill [November 2012]
- Plant-wide office disaster prevention drill [November 2012]

Our actions for environment/safety

Toyama Plant handles many hazardous substances and high-pressure gas. In order to prevent environmental pollution due to accidents/disasters, the entire Plant is making efforts for safety education and training as well as strengthening the maintenance systems for facilities. Furthermore, in order to reduce environmental load on the water area and atmosphere, the Plant is making sure to operate ISO 14001, the environment management system that they acquired in March 2003, for environment preservation.

④Nagoya Plant

Overview of the Plant

- Location 7, Tsukiji-cho, Minato-ku, Nagoya, Aichi
- Plant Manger Hideki Yanagi
- Number of employees 35
- Major production items
  [Basic chemicals] Sulfuric acid, Acid sodium sulfite solution, Urea aqueous solution
  [High purity products] High purity sulfuric acid

Recent environment/safety related topics

- Oil leakage drill as part of an effort to strengthen drainage control [October 2012]
- Training simulating an accident during transportation, together with Nissan Butsuryu [December 2012]
- Comprehensive disaster-preparedness/emergency evacuation drill for all staff [March 2013]

Our actions for environment/safety

Nagoya Plant's actions for environment include 1) appropriate control of air pollutants and water pollutants, 2) challenge to zero emission, and 3) promotion of energy saving.
Nagoya Plant's main products include strong acid. Therefore, the actions for safety and health include identifying hazardous and harmful factors through pre-risk evaluation and sharing information of near miss and risks and removing these factors to prevent chemical injury accidents.

⑤Onoda Plant

Overview of the Plant

- Location 6903-1, Oaza onoda, Sanyo-Onoda, Yamaguchi
- Plant Manager Associate Director Masataka Hatanaka
- Number of employees 222
- Major products
  Agrochemical intermediates and formulation, Performance materials and pharmaceuticals
  [Agrochemical intermediates] Elsun (pesticide), TARGA, SIRIUS, PERMIT, ALTAIR (herbicide), SUNMITE (insecticide/miticide), LEIMAY (fungicide), STARMITE (miticide)
  [Performance materials] TEPIC-G(hardening agent for polyester powder coating material), TEPIC-S (LED sealant, solder mask ink), phenylphosphonic acid
  [Pharmaceutical] LIVALO pharmaceutical ingredient (anti-cholesterol agent)

Recent environment/safety related topics

- Safety workshop for all contractors [July 2012]
- Emergency life-saving workshop [October 2012]
- Comprehensive disaster preparedness drill [October 2012, March 2013]

Our actions for environment/safety

At Onoda Plant, life science products (pharmaceuticals and agrochemicals, etc.) and organic fine chemicals are produced. In order to reduce environmental load, the Plant is vigorously promoting "appropriate handling and reduction of greenhouse gas, environmental load substances", "prevention of leakage of odor", "saving resources and saving energy". The Plant is making efforts to prevent environmental pollution due to accidents/disasters. It also places safety and stable operation as the top priority of the environment/safety activities in order to protect safety and health of the local community people and the employees.

⑥Chemical Research Laboratories

Overview of the Laboratories

- Location 10-1, Tsuboi-Nishi, 2-chome, Funabashi, Chiba
- General Manager of Laboratory Director, Jun-ichi Watanabe
- Number of employees 201
- Major research contents
  Research to discover, formulate and develop agrochemicals, research to discover and develop pharmaceuticals, synthesizing and process development of pharmaceutical intermediate and drug substance, research and development of organic performance materials research and development of organic synthetic technology, and material analysis.

Recent environment/safety related topics

- Safety workshop concerning risk evaluation tests conducted by external lecturers. [May 2012]
- Conducted Group safety activities meeting for young professionals in collaboration with Electronic Materials Research Laboratories [October 2012]
- Power saving and energy saving by renewing air conditioning [July 2012]
- Conducted Fire and evacuation drill [March 2013]

Our actions for environment/safety

Chemical Research Laboratories are our Company's central research institution, and its core technology is organic synthesis. It is especially making efforts in safe experiment and disaster prevention. By carrying out 4S, sharing information of near miss and risks, and danger prediction, it is aiming to enhance safety awareness among the employees and eliminate occupational accidents. The surrounding area of the Laboratories is a residential area. Therefore, the Laboratories make sure to follow the laws and ordinance concerning management of discharged water, odor, noise and waste and promote environmental preservation as a corporation that is trusted by the local society.

⑦Electronic Materials Research Laboratories (Funabashi)

Overview of the Laboratories

- Location 488-6, Suzumi-cho, Funabashi, Chiba
- General Manager of Laboratory Senior Managing Director, Hiroyoshi Fukuro
- Number of employees 83
- Major research contents
  Research and development of materials for liquid-crystal display and new electronic materials

Recent environment/safety related topics

- Conducted group safety activities meeting for young researchers (in collaboration with Chemical Research Laboratories) [October 2012]
- Conducted fire drills [December 2012]
- Conducted emergency evacuation drill in Clean Room [March 2013]

Our actions for environment/safety

Because there are many young researchers at the Electronic Materials Research Laboratories (Funabashi), we focus on the training aiming to enhance safety awareness. We strengthen safety measures by continuously reviewing laboratories' rules and regularly actions to share information of near miss and risks and danger prediction training. As part of risk management, we also developed emergency manual that corresponds with the disaster of the Great East Japan Earthquake level. By implementing the emergency evacuation drill based on the manual, we confirmed its validity.

⑧Electronic Materials Research Laboratories (Toyama)

Overview of the Laboratories

- Location 635, Sasakura, Fuchu-machi, Toyama, Toyama
- General Manager of Laboratory Senior Managing Director, Hiroyoshi Fukuro
- Number of employees 41
- Major research contents
  Research and development of materials for semi-conductor

Recent environment/ safety related topics

- Conducted safety education concerning hazardous materials using video [July, November 2012]
- Conducted a high-pressure gas lecture by the supplier [March 2013]
- Conducted emergency evacuation drill [March 2013]

Our actions for environment/safety

The Electronic Materials Laboratories (Toyama) carry out researches using wide variety of chemicals and gas cylinders on a daily basis. Therefore, we emphasize the training for handling and operation roles of those substances. Furthermore, because the Laboratories are located within the premise of the Toyama Plant, safety activities are carried out together with the Plant such as conducting emergency drills together.

⑨Inorganic Materials Research Laboratories

Overview of the Laboratories

- Location 11-1, Kitasode, Sodegaura, Chiba
- General Manager of Laboratory Kenji Tanimoto
- Number of employees 26
- Major research contents
  Using our superfine particle control technology, we conduct research and development of inorganic colloid products such as silica sol.

Recent environment/safety related topics

- Earthquake drill [in collaboration with Sodegaura Plant, October 2012]
- Concurrent 5S activities [in collaboration with Sodegaura Plant, October 2012]

Our actions for environment/safety

The Inorganic Materials Research Laboratories are located next to the Sodegaura Plant, and in collaboration with the Plant, the Laboratories try to maintain and improve work environment as well as enhance safety awareness. For example, sharing information of near miss and risks, danger prediction training, 5S activities and disaster drills are carried out together with the Plant. The Laboratories also try hard to keep everyone informed about safety education and compliance with laws and ordinance through safety meeting every month and OJT on a daily basis.

⑩Biological Research Laboratories

Overview of the Laboratories

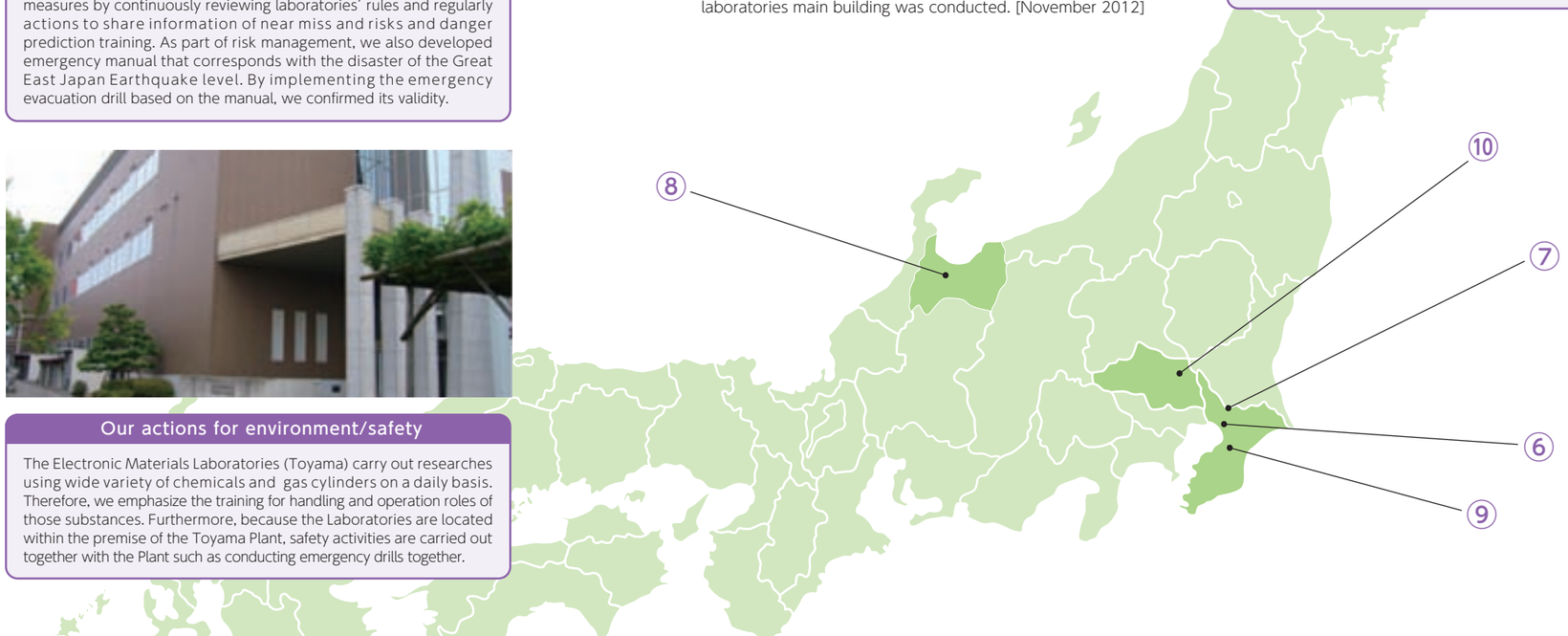
- Location 1470, Shiraoka, Shiraoka, Saitama
- General Manager of Laboratory Director, Hiroshi Onizuka
- Number of employees 98
- Major research contents
  At the Biological Research Laboratories, we conduct various evaluation/tests for development and practical application of agrochemicals and pharmaceuticals. We not only try to develop effective and safe chemicals but also environmentally friendly chemicals in the agrochemical field and human-friendly drugs in the pharmaceutical field.

Recent environment/safety related topics

- Participated in the orientation on how to operate indoor fire plug equipment, etc. [October 2012]
- Implemented disaster drill for the first time after the new laboratories main building was conducted. [November 2012]

Our actions for environment/safety

The Biological Research Laboratories are our hub laboratory for "biological evaluation". In order to for safe tests, we conduct training including how to handle experimental organism. We also conduct 4S activities and sharing information of near miss and risks to enhance awareness on safety among our employees.



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

日産化学工業株式会社
NISSAN CHEMICAL INDUSTRIES, LTD.
7-1, Kanda Nishiki-cho 3-chome, Chiyoda-ku, Tokyo 101-0054, Japan
Environmental Safety and Quality Assurance Department
TEL: 03-3296-8265 FAX: 03-3296-8355
URL:http://www.nissanchem.co.jp

UD FONT

Date of issue: October 2013