

RC Management

Responsible Care activities aim to secure environment, health and safety (EHS) performance on voluntary basis throughout the entire process, from the development of chemical substances to manufacture, distribution, use, final consumption and disposal / recycling. 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. In Japan, the Japan Responsible Care Council was established by the Japan Chemical Industry Association in 1995, and we are one of the original members of the association.

We have also signed the Responsible Care Global Charter, which was revised in 2014. We are enhancing our efforts in RC activities.



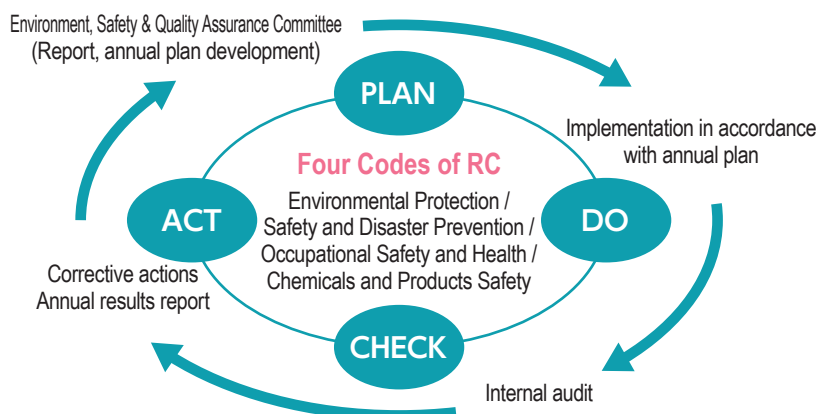
Nissan Chemical RC Management System

To achieve our RC mid-term plan, we have established RC management system based on ISO14001*, and we carry out targets management and continuous improvements based on PDCA (Plan, Do, Check, Act).

We have established the Environment, Safety & Quality Assurance Committee, which is chaired by the officer responsible for the Environment, Safety & Quality Assurance Department, as the organization in charge of promoting these activities. The committee holds annual meeting, at which its members discuss the results of activities at each laboratory / plant, review all the activities of the Company, and set the RC targets for the next fiscal year.

The results of the discussion are reported to management meeting. The targets of next fiscal year are resolved at the board meeting after deliberated and approved by the management meeting.

* International standard for environmental management system. All of our plants have acquired ISO 14001 third party certification.



▲ Environment, Safety & Quality Assurance Committee: Officer responsible for the Environment, Safety & Quality Assurance Department (Chairman), the head of Corporate Planning Department, Production Technology Department, Personnel Department, Purchasing Department, business divisions, Advanced Materials & Planning Department, Environment, Safety & Quality Assurance Department, all plants and laboratories. Meeting is held annually.

RC Basic Policy

We have set priority matters related to EHS in all stages of our business activities as our RC Basic Policy. We have fully shared this basic policy with all group companies.

We revised the RC Basic Policy in April 2018, in accordance with the “Principles of the Japan Chemical Industry Association regarding the Environment, Health and Safety” established on December 16, 2016.

RC Basic Policy

- (1) Safeguard the environment, health and safety in domestic and overseas through strong leadership by management.
- (2) Strive to continually improve environmental, health and safety performance and the security of facilities, processes and technologies throughout the entire chemical lifecycle of our products from development to disposal, and disclose the results of such efforts to the society.
- (3) Further reduce consumption of resources and energy and strive to reduce, reuse and recycle waste.
- (4) Protect the environment and people’s health and safety by promoting continual improvement in chemical product safety and stewardship throughout the supply chain.
- (5) Strengthen chemicals management systems by participating in the activities related to development and implementation of lifecycle-oriented, science-based, and risk-based sound chemical management legislation and best practice.
- (6) Influence business partners to promote the safe management of chemicals within their own operations.
- (7) Endeavor to engage in dialogue with local authorities and communities by heeding their concerns regarding the effects of our products and business activities on the environment, health and safety, and by providing them with necessary information to help them understand properly.
- (8) Further expand dialogue with our stakeholders in order to better meet their expectations regarding our efforts with respect to the environment, health and safety.
- (9) Contribute to the sustainable development of society by developing and providing innovative technologies and other solutions.

RC Audits

RC audits are activities for checking RC activities at each plant, laboratory and affiliate. They are carried out by Environment, Safety & Quality Assurance Department in accordance with the RC audit guidelines. In these audits, the auditors check whether RC activities, as well as internal audits and patrols, are carried out appropriately and the PDCA cycle is implemented without fail, and compliance about EHS at each location. Environment, Safety & Quality Assurance Department clarifies visible or potential problems related to EHS and promotes improvements in response after clarifying the problems, if any. In FY2017, total 43 audits were conducted.

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

Responsible Care Code	Mid-term plan (FY2016-2021)	FY2017 plan	
Environmental protection and countermeasures to address climate change	<ul style="list-style-type: none"> Reducing greenhouse gas (GHG) emissions and improving the GHG emission rate*¹ <p>GHG emissions: Reducing the total amount during the period of the mid-term plan (FY2016 to 2021) by 100,000 tons compared to the period of the previous mid-term plan (FY2010 to 2015) as CO₂ equivalent</p> <p>GHG emission rate: Improving by 20% from FY2011 level by FY2021</p> <p>*¹ Emissions / sales</p>	<ul style="list-style-type: none"> Further reducing GHG emissions by conversion of fuel for melamine heating furnace and others Reducing N₂O emissions from nitric acid plants 	☆☆☆
	<ul style="list-style-type: none"> Improving the energy consumption rate*² <p>Achieving a 20% improvement from FY2011 level by FY2021</p> <p>*² Amount of energy consumption / sales</p>	<ul style="list-style-type: none"> Energy saving by improving the equipment capacities and renewal aging facilities 	
	<ul style="list-style-type: none"> Reducing industrial waste 	<ul style="list-style-type: none"> Target setting of the recycling rate 	
	<ul style="list-style-type: none"> Establishing a CSR supply chain management (green procurement) system 	<ul style="list-style-type: none"> Continuously conducting EHS audits Monitoring CSR activities in the supply chain 	
	<ul style="list-style-type: none"> Strengthening measures for biodiversity conservation 	<ul style="list-style-type: none"> Promoting activities for biodiversity based on biodiversity action guidelines 	
	<ul style="list-style-type: none"> Promoting development and sales of environmentally friendly products 	<ul style="list-style-type: none"> Promoting development and study of environmentally friendly products 	
Safety and disaster prevention	<ul style="list-style-type: none"> Creating safety culture and improving the safety capabilities Improving effectiveness of the prior assessment system on manufacturing, construction work and research 	<ul style="list-style-type: none"> Zero accident of fire / explosion / leaking chemicals Reviewing and revising prior assessment guidelines 	☆☆☆
Occupational safety and health	<ul style="list-style-type: none"> Establishing an occupational safety and health management system based on ISO45001 Achieving zero accident that requires staff time off from work 	<ul style="list-style-type: none"> Implementing investment in equipments and facilities for safety (350 million yen / three years) Reviewing the status and providing guidance on occupational safety on subcontractors 	☆☆
Chemicals and products safety	<ul style="list-style-type: none"> Promoting risk-based management throughout the lifecycle of chemical substances Contributing to advanced research that examines the impact of chemical substances on human health and the environment 	<ul style="list-style-type: none"> Reviewing the implementation of risk assessment Continuously disclosing safety summaries of chemical substances 	☆☆☆

Achievement assessment		Reference	Revision of the mid-term plan (<u>underline</u> means revision)	FY2018 plan
<ul style="list-style-type: none"> •N₂O emissions reduced by conversion of fuel for melamine heating furnace and by downsizing nitric acid plants. GHG emissions: Reducing by 53,000 tons from FY2016 as CO₂ equivalent (by 15% from FY2011 level) GHG emission rate : Improving by 36% from FY2011 level 		P55	<ul style="list-style-type: none"> •Reducing GHG emissions and further improving the GHG emission rate GHG emissions: <u>Reducing by 20% from FY2011 level by FY2021</u> GHG emission rate: <u>Improving by 40% from FY2011 level by FY2021</u> 	<ul style="list-style-type: none"> •Reducing GHG emissions by conversion of fuel for ammonium auxiliary boiler •Suppressing Freon gas emissions by chiller renewal •GHG emissions: Reducing by 16% from FY2011 level GHG emission rate: Improving by 37% from FY2011 level
<ul style="list-style-type: none"> •Energy consumption rate was improved by 24% from FY2011 level. 		P56	<ul style="list-style-type: none"> •Further reducing the energy consumption rate <u>Achieving a 30% of reduction from the FY2011 level by FY2021</u> 	<ul style="list-style-type: none"> •Further energy saving by improving the equipment capacities and renewal aging facilities •Energy consumption rate: Improving by 25% from FY2011 level •Relocating head office to a highly energy-saving-efficient building (PAL / ERR Stage 3)
<ul style="list-style-type: none"> •Recycling rate was 97.9%. 		P58	<ul style="list-style-type: none"> •Further reducing industrial waste •<u>Recycling rate: 99.5% or higher by FY2021</u> 	<ul style="list-style-type: none"> •Recycling rate: 98.5% or higher
<ul style="list-style-type: none"> •EHS audits were conducted in major raw material suppliers. •CSR assessments were conducted in major raw material suppliers. 		P67	<ul style="list-style-type: none"> •Establishing a CSR supply chain management (green procurement) system 	<ul style="list-style-type: none"> •Expanding the coverage of EHS audits •Expanding the coverage of CSR assessment in the supply chain
<ul style="list-style-type: none"> •Management of Bio-Park •Support for a NPO and dialogue with them •Participation in "Fujimae-Higata Clean-up Activities" •Continuous support for the conservation of Pinus pentaphylla 		P59	<ul style="list-style-type: none"> •Strengthening measures for biodiversity conservation 	<ul style="list-style-type: none"> •Promoting activities for biodiversity based on biodiversity action guidelines
<ul style="list-style-type: none"> •Environmentally friendly product has been launched. (Venus® Oilclean) 		P25	<ul style="list-style-type: none"> •Promoting development and sales of environmentally friendly products 	<ul style="list-style-type: none"> •Promoting development and sales of environmentally friendly products
<ul style="list-style-type: none"> •There was no accident of fire / explosion / leaking chemicals. •Prior assessment guideline was reviewed. •Questionnaire about safety culture was revised. 		P61	<ul style="list-style-type: none"> •<u>Zero accident of fire / explosion / leaking chemicals</u> •Creating safety culture and improving the safety capabilities •Improving effectiveness of the prior assessment system on manufacturing, construction work and research 	<ul style="list-style-type: none"> •Zero accident of fire / explosion / leaking chemicals •Revising prior assessment guideline •Implementing the revised questionnaire about safety culture and analysis
<ul style="list-style-type: none"> •There was one case of an accident requiring staff time off from work. There were two cases of accidents involving employees of subcontractors including temporary staff. •Status of occupational safety and health was confirmed and guidances were provided to subcontractors. 		P62	<ul style="list-style-type: none"> •<u>Revising the occupational safety and health management system</u> •Achieving zero accident that requires staff time off from work 	<ul style="list-style-type: none"> •Implementing the investment in equipments and facilities for safety (350 million yen / three years: final year) •Achieving zero accident that requires staff time off from work
<ul style="list-style-type: none"> •Risk assessment was reviewed by prior assessment. •Safety summary of AdBlue® was disclosed. •Study of Whole Effluent Toxicity (WET) was launched. 		P63	<ul style="list-style-type: none"> •Promoting risk-based management throughout the lifecycle of chemical substances •Contributing to advanced research that examines the impact of chemical substances on human health and the environment 	<ul style="list-style-type: none"> •Continuously disclosing safety summaries of chemical substances •Continuously conducting the risk assessment by prior assessment system •Studying WET