

Responsible Care

As a company that handles chemical substances, Nissan Chemical Group has a great responsibility to society. In order to fulfill this responsibility, we engage in Responsible Care (RC) activities. RC activities aim to voluntarily ensure environment, health and safety throughout the entire process from development of chemicals to manufacturing, distribution, use, final consumption, disposal and recycling. These activities also serve as a form of communication with society through the announcement of their results.

Responsible Care Management System

System

We have been engaged in RC activities since 1992. To achieve our RC mid-term plan (2022-2027), established in FY2022, we manage targets and make continuous improvements through PDCA (Plan, Do, Check, Act) in our RC management system based on ISO14001* throughout the Company. In addition, we have established the Environment & Safety Committee, which is chaired by the officer responsible for the Environment, Safety & Quality Assurance Department, as the organization in charge of promoting RC activities, and hold its annual meeting. The contents of the discussion, including targets for the next fiscal year, are reported to the management meeting. After approved at the management meeting, the contents are resolved at the Board of Directors.

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



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 steadily, and compliance about environment, health and safety (EHS) at each site. 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 FY2022, total of 27 RC audits were conducted for our plants, research laboratories and affiliates.



Responsible Care Management

Web: https://www.nissanchem.co.jp/eng/csr_info/responsible_care/management.html

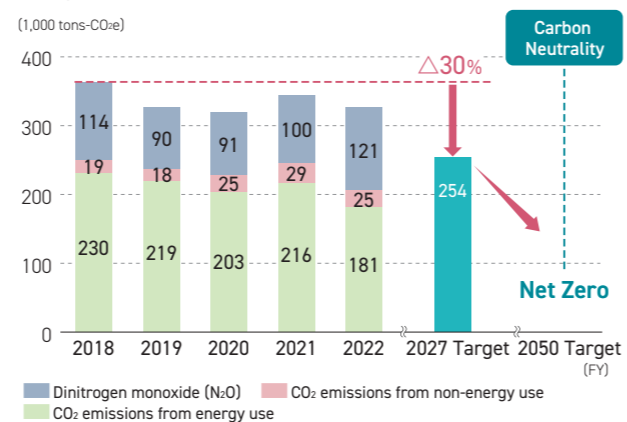
Mitigation of Climate Change and Environmental Conservation

Efforts for Reducing Greenhouse Gas (GHG) Emissions

Nissan Chemical actively works to protect the environment, including taking efforts to reduce greenhouse gas (GHG) emissions, and have been promoting initiatives to mitigate climate change which include energy savings, fuel conversion, and dinitrogen monoxide emissions reduction. With regard to reducing our GHG emissions (Scope 1 and 2), we have set a FY2027 target of “reducing GHG emissions by at least 30% from FY2018 level” aiming for achievement of carbon neutrality in 2050.

In FY2022, although GHG emissions increased due to nitric acid plant trouble, etc., GHG emissions decreased from FY2021 as a result of melamine production shutdown and boiler fuel conversion at the Onoda Plant.

Changes in GHG emissions

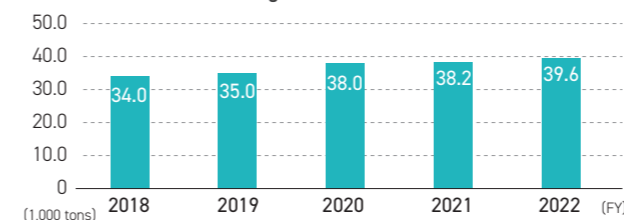


Efforts to Reduce Industrial Waste

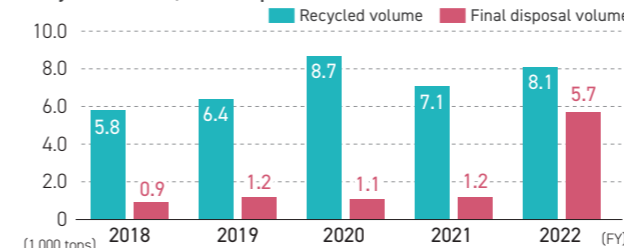
Through our RC activities, we further promote the 3Rs (Reduce, Reuse, Recycle) and strive to reduce industrial waste emissions, while at the same time thoroughly implementing control measures to ensure the proper disposal of waste. In FY2022, the volume of industrial waste generated and the recycled volume increased slightly compared to FY2021, and the final disposal volume increased significantly. This is because the waste soil generated from construction work at plants was disposed as industrial waste.

In line with the enforcement of the Act on Promotion of Resource Circulation for Plastics (enforcement date: April 1, 2022), we have started counting the amount and recycling rate of plastic waste since FY2021. In FY2022, the amount of plastic waste increased slightly compared to FY2021. However, we achieved the

Volume of industrial waste generated*



Recycled volume/Final disposal volume*



* Waste soil from plants was added to calculations from FY2021

FY2027 recycling rate target of “50%” by promoting recycling efforts at plants and refining the data at research laboratories. Going forward, we will continue to promote initiatives such as recycling.

	Amount of plastic waste	Recycling rate of plastic waste
FY2021	795t	44%
FY2022	830t	55%

Biodiversity Conservation

Our corporate philosophy is “Contribute to the protection of the global environment and the existence/development of humanity, offering the value sought by society”. We at the Nissan Chemical Group engage in business activities that take into account biodiversity and help protect the global environment. We have set the “establish and operate Bio-Park at Nissan Chemical’s plants” as a target for FY2027, and are promoting biodiversity initiatives. In FY2022, a new Bio-Garden was completed at the Saitama Plant. It is a garden that provides a habitat for living things in a form similar to the nature of a satoyama (woodland close to the living area).

We also established the “Nissan Bio-Park Nishi-Hongo” in 2008 with the theme of returning to the lost nature, and the pur-

Web

- Mitigation of Climate Change
https://www.nissanchem.co.jp/eng/csr_info/responsible_care/environment/reduction.html
- Reduction of Industrial Waste and Pollutant Emissions
https://www.nissanchem.co.jp/eng/csr_info/responsible_care/environment/management.html
- Water Resources Conservation
https://www.nissanchem.co.jp/eng/csr_info/responsible_care/environment/effective.html
- Biodiversity Conservation
https://www.nissanchem.co.jp/eng/csr_info/responsible_care/conservation.html



Saitama Plant Bio-Garden*
* A coined word combining biotope and garden.

pose of “creating spaces with biodiversity, mainly waterfront and community-based forests that are suitable to inhabit for plants and animals, to provide places where employees of the plant and local residents can relax”. Since then, this Bio-Park has been operated by Toyama Plant and in April 2023, the “Tulip Viewing Mini Concert” was held at the Park to commemorate the 15th anniversary of its opening. Approximately 100 people, including not only our employees but also local residents, retired employees of the Nissan Chemical Toyama Plant, and their families, who cooperate with maintenance and management of the park on a daily basis, visited the venue. Local brass bands also performed and the concert was great success.



Tulip Viewing Mini Concert at Nissan Bio-Park Nishi-Hongo

Safety and Disaster Prevention

We carry out risk assessment, process risk predictions, and facility risk predictions by prior assessment for manufacture with the aim of ensuring safety, achieving stable operations, and improving our process safety capability. As a result, there were no explosions or other accidents in FY2022, but a small fire broke out at the Toyama Plant. The accident occurred due to the leakage of the heating medium used in manufacturing because of a failure to close the valve. The temperature of the heating medium exceeded its ignition point because of added heat generated by the oxidation of it, resulting in a small fire. Employees immediately put out the fire, and there was no human and property damage, and no environmental and neighborhood impact. We are taking thorough measures to prevent such a small fire from happening again, and deploying measures to all plants and laboratories. Our plants, laboratories, and affiliates carry out various drills and training sessions such as earthquake fire prevention drill every year, and are designed to make us ready to respond to emergencies or accidents in a speedy and reliable manner.



Disaster drills (Toyama Plant)

Promotion of Occupational Safety and Health

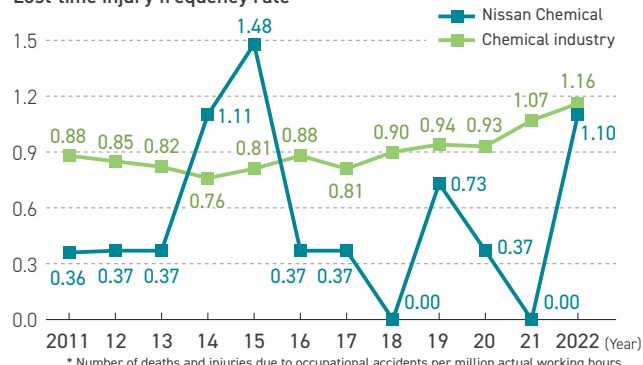
Through our RC management system, we prevent occupational accidents, promote the good health of staff, and build a comfortable workplace environment in our efforts to improve the level of safety and health at each business site. In addition, we carry out various drills and training sessions annually with the aim of ensuring safety, achieving stable operations, and improving our process safety capability to make us ready to respond to emergencies or accidents in a reliable manner.

In 2022, there were 3 accidents requiring staff time off from work, and 4 accidents not requiring staff time off from work were occurred. We will continue aiming to achieve zero accident by promoting risk assessment, prior-work risk predictions, risk predictions training, HHK¹, 5S², and appropriate wearing of protective equipment and by raising awareness of safety through the safety meeting and the occupational safety newspapers.

¹ HHK stands for Hiyari-Hatto (near miss incident) and Kigakari (alarms). It means the discovery of nearmiss incidents that are not linked directly to serious injuries or accidents but could have resulted in such injuries or accidents.

² 5S stands for Seiri, Seiton, Seisou, Seiketsu, Shitsuke. These words mean "Sort" "Set" "Shine" "Standardize" "Sustain" respectively

Lost-time injury frequency rate*



Web

Promotion of Safety and Disaster Prevention, and Occupational Safety and Health

https://www.nissanchem.co.jp/eng/csr_info/responsible_care/safety.html

Management of Chemical Substances

https://www.nissanchem.co.jp/eng/csr_info/responsible_care/chemical.html

Management of Chemical Substances and Products Safety

Risk Assessment in Products Lifecycle

We conduct a risk assessment (prior assessment) at each step in handling chemical products, such as R&D, manufacture, sales and revision. The risk assessment is performed based on legal and regulatory information, safety data evaluated by internal or external laboratories or obtained from SDS (Safety Data Sheet) for raw materials and literature, and data on physicochemical properties and work environment conditions. Based on the results of risk assessment, we take appropriate measures; i.e., legal and regulatory compliance, improving facilities to reduce worker exposure at manufacturing sites, improvement of operation procedures, clarification and documentation of the procedures, and the training, etc. Moreover, these results are reported to all the relevant people in the Company.

In addition, we also participate in Long-range Research Initiative, an international initiative promoted by Japan Chemical Industry Association (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.

