# Protecting the Global Environment

## Environmental Management

### Basic Environmental Policy

1. We comply with laws and regulations related to the environment as well as other requirements to which we have agreed.
2. In consideration of our business activities, we will focus on the following items.
   1) We will develop and manufacture environmentally friendly products and procure environmentally friendly raw materials.
   2) We will improve our environment-related technologies and know-how.
   3) We will sell products that help our customers reduce their environmental impact and prevent pollution.
3. We will strive to conserve resources and energy and reduce industrial waste from a life cycle perspective at all stages of our business activities.
4. We will establish an environmental management system and plan for continuous improvement and pollution prevention.
5. We will set environmental targets and review them regularly.
6. We will ensure that all employees and related parties are made aware of this Basic Environmental Policy and promote education and dissemination activities to ensure that everyone can understand and act on it.
7. This Basic Environmental Policy will be made available to the general public as necessary.

### Environmental management system (EMS)

Sakai Chemical Industry has created an Environmental Manual in line with ISO 14001 to clarify its environmental measures and promote environmental conservation activities effectively with the aim of reducing the environmental impact of our business activities, preventing pollution, and proactively conducting environmentally friendly business activities.

#### Acquisition of ISO 14001 certification

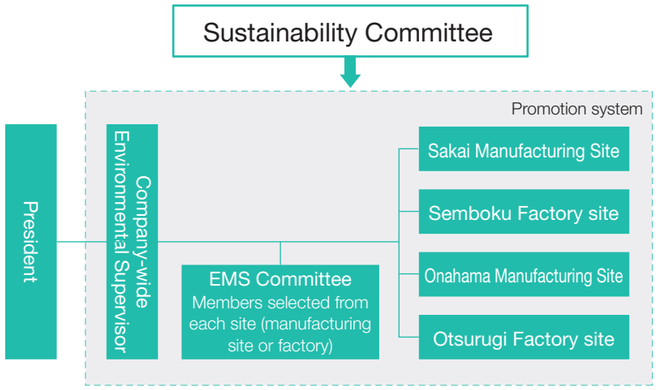
The Otsurugi Factory has ISO 14001:2015 certification and passed a renewal audit on August 1, 2023. We are also scaling out similar initiatives throughout the Company.

### Environmental risk and compliance management

Business activities must not involve any legal violations. In FY2022, the EMS Committee discussed how to manage the list of environmental laws and regulations and launched an initiative to improve it. In addition, each department identifies and assesses environmental risks and strives to reduce those risks by working to achieve environmental targets set based on high-priority challenges. We will prevent the unintended discharge of environmentally hazardous substances and environmental accidents by implementing environmental risks and compliance management initiatives.

### Promotion system

The EMS Committee shares information about and discusses risks and issues identified at each site based on the deliberations of the Sustainability Committee in order to facilitate Company-wide efforts to achieve environmental targets and solve environmental issues. Moreover, EMS-related executive responsibility and authority at each site has been delegated to the Site Environmental Supervisor so that environmental conservation activities can be promoted effectively at each site.




### Promotion of education

Aiming to spread environmental conservation activities throughout the Company and upgrade them, Sakai Chemical Industry provides in-house e-learning and allows employees to attend an ISO 14001 internal auditor training course run by an external organization.



## Environmental Commitment

### FY2022 targets and results

Sakai Chemical Industry set environmental targets for FY2022 to contribute to the development of a sustainable society by reducing both environmentally hazardous substances used in its business activities and environmental risks entailed thereby. The FY2022 results of our efforts to achieve those targets are as follows:

○: Target achieved ×: Target not achieved

| Type | | Targets | Results | Assessment | FY2023 target |
|---|---|---|---|---|---|
| Initiatives to mitigate climate change | $CO_2$ emissions reduction | Reducing $CO_2$ emissions by 30% (versus the FY2013 level) by FY2030 | 23% reduction | — | Continuing to strive for the same target |
| | Energy conservation | Reducing energy intensity by 1% year on year | 4% increase | × | Continuing to strive for the same target |
| Resource recycling initiatives | | Reducing industrial waste by 25% (versus the FY2021 level) by FY2025 | 16% reduction | — | Continuing to strive for the same target |
| Initiatives to prevent pollution and reduce environmentally hazardous substances | | Meeting numerical regulation standards | Minor and temporary exceedance of standard values (in one indicator) | × | Continuing to strive for the same target |
| Biodiversity initiatives | | Conducting environmental impact post-assessment (animal, plant, and ecosystem assessment) on the occasion of the construction of an in-house disposal site<br>Continuing to use CNL | Applied for permission to change (expand) the size of the disposal site<br>Continued to use CNL (Matsubara Factory) | ○ | Conducting environmental impact post-assessment on the occasion of construction after acquiring permission at the end of 2023<br>Continuing to use CNL and increasing its use |
| Environmental compliance initiatives | | Zero serious environmental accidents | One serious environmental accident: Fire at the Onahama Manufacturing Site | × | Continuing to strive for the same target |

* This assessment is based on values calculated in accordance with the Act on Rationalizing Energy Use and the Act on Promotion of Global Warming Countermeasures.

### FY2022 environmental performance

Our business activities involves heavy consumption of energy, chemicals, water resources, etc. The environmental impact of our business activities for FY2022 was as follows:

#### INPUT

| Raw materials | | |
|---|---|---|
| Unit | FY2021 | FY2022 |
| 1,000 tons | 297 | 249 |

| Energy | | |
|---|---|---|
| Unit | FY2021 | FY2022 |
| 1,000 kL | 71 | 62 |

| Water | | |
|---|---|---|
| Unit | FY2021 | FY2022 |
| 1,000 $m^3$ | 33,757 | 33,859 |

#### OUTPUT

| Products | | |
|---|---|---|
| Unit | FY2021 | FY2022 |
| 1,000 tons | 74 | 63 |

| Emissions to the atmosphere | | | |
|---|---|---|---|
| | Unit | FY2021 | FY2022 |
| $CO_2$ | 1,000 tons | 134 | 119 |
| SOx | Tons | 53 | 31 |
| NOx | Tons | 59 | 34 |
| Pollutant Release and Transfer Register (PRTR)-listed substances | kg | 43 | 22 |

| Discharges to water bodies | | | |
|---|---|---|---|
| | Unit | FY2021 | FY2022 |
| Water discharge | 1,000 $m^3$ | 33,765 | 33,844 |
| COD | Tons | 164 | 221 |
| Total nitrogen | Tons | 1,119 | 710 |
| PRTR-listed substances | Tons | 290 | 261 |

| Waste | | | |
|---|---|---|---|
| | Unit | FY2021 | FY2022 |
| In-house disposal | 1,000 tons | 48 | 40 |
| External disposal | 1,000 tons | 2 | 2 |
| PRTR-listed substances transferred | Tons | 351 | 280 |

* The amount of energy is a conversion of the total usage of various fuels and electricity at the Company's factories into the amount of crude oil based on the Act on Rationalizing Energy Use.
* "Water" above includes supply water, ground water, industrial water, and seawater.
* $CO_2$ emissions are calculated in accordance with the Act on Rationalizing Energy Use and the Act on Promotion of Global Warming Countermeasures.
* The value of the chemical oxygen demand (COD) includes an equal conversion of the biochemical oxygen demand (BOD) of rivers.
* The value for "Products" in the OUTPUT table is the value of production volume used in the periodical report that the Company has submitted in line with the provisions of the Act on Rationalizing Energy Use. (It does not include by-products.)

# For Our Planet

## Initiatives to Reduce Environmental Impacts

### Initiatives to mitigate climate change

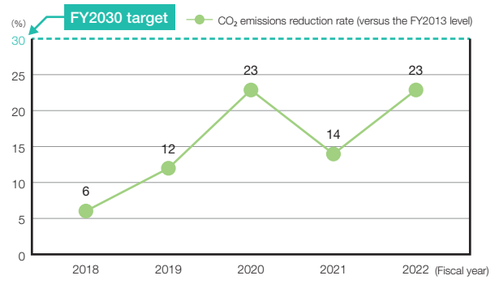
In line with the public policy on response to climate change (based on the Task Force on Climate-Related Financial Disclosures [TCFD] Recommendations), Sakai Chemical Industry has set a medium-term target of reducing $CO_2$ emissions by 30% versus the FY2013 level by FY2030. We will consider the introduction of renewable energy sources, strongly promote energy conservation activities, and continue to tackle the challenge of achieving carbon neutrality by 2050.

#### $CO_2$ emissions reduction and energy conservation activities

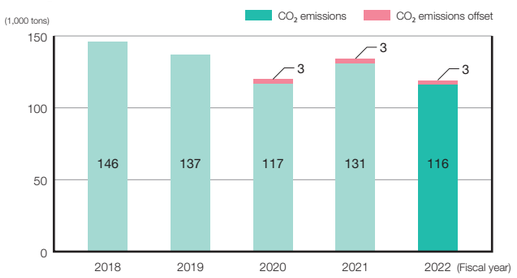
In FY2022, $CO_2$ emissions from our business activities decreased partly due to a decrease in production. Meanwhile, our energy intensity for FY2022 increased by 4% year on year.

This means that we failed to achieve our target of reducing energy intensity by 1% or more year on year despite our proactive measures to reduce steam loss, improve the efficiency of equipment operation, and replace conventional equipment with energy-saving equipment. We recognize that the main factors behind the deterioration of energy intensity include an increase in the proportion of high-value-added products, which use a large amount of energy.

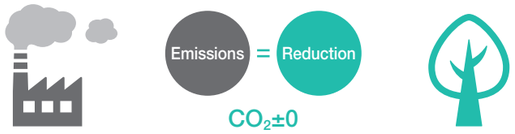
**Materiality target achievement level**



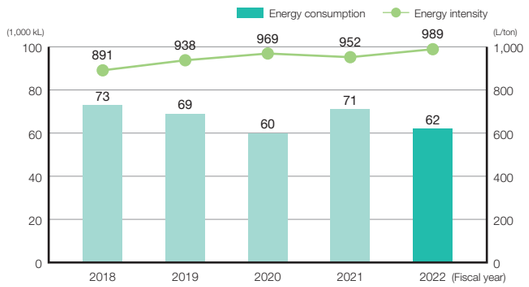

**$CO_2$ emissions**




* Calculated in accordance with the Act on Rationalizing Energy Use and the Act on Promotion of Global Warming Countermeasures
* Since FY2020, we have been using carbon neutral LNG at the Matsubara Factory, which manufactures cosmetic materials at the Onahama Manufacturing Site.
* Carbon neutral LNG is natural gas from which the entirety of $CO_2$ emissions, ranging from those from gas exploitation to those from gas combustion, are deemed to be completely offset by a $CO_2$ emissions reduction achieved by forestation and other projects.




**Energy consumption (crude oil equivalent) and energy intensity**




* Calculated in accordance with the Act on Rationalizing Energy Use
* Starting with the Environmental and Social Report for FY2022, the new calculation method for energy intensity has been adopted.
The data for the past five years are also calculated using the new method.
(Approved by the Kinki Bureau of Economy, Trade and Industry on January 23, 2023)

### Initiatives to introduce renewable energy

#### Installing solar panels at the Otsurugi Factory

With the aim of reducing greenhouse gas emissions and conserving energy, we concluded a basic agreement on energy services with Tokyo Gas Co., Ltd. in June 2022 and installed solar power generation equipment using the power purchase agreement (PPA) model* at the Otsurugi Factory at the Onahama Manufacturing Site.

The equipment began to work in late June 2023, with an estimated power generation capacity of 1,411 MWh. This capacity accounts for approximately 17% of the Otsurugi Factory's electricity consumption in FY2022, with an expected $CO_2$ reduction of approximately 680 tons. This equipment will also enable us to more easily secure communication infrastructure and power necessary for the resumption of operations in the event of a large-scale disaster and the resulting malfunctioning of infrastructure. We will consider scaling out this initiative to other factories and work to achieve more widespread use of renewable energy.

* The power purchase agreement (PPA) model is a business model in which a PPA operator installs solar power generation equipment at its own cost on the premises of a counterpart company, which purchases the generated electricity.

### Resource recycling initiatives

As one of its medium- to long-term materiality targets, Sakai Chemical Industry has set a target of reducing industrial waste by 25% versus the FY2021 level by FY2025. We will promote the 3Rs ("reduce," "reuse" and "recycle") and work to reduce industrial waste through overall waste management measures.

#### Industrial waste

Industrial waste from our business activities decreased by 8,000 tons year on year partly due to a decrease in production. More than 90% of waste is disposed of in landfills at our in-house disposal site, and most of it is waste sludge derived from titanium dioxide discharged during production. We are currently considering the possibility of reducing waste sludge derived from titanium dioxide to achieve the relevant target for FY2025. (See "Voice" below.)

**Details of industrial waste disposal (FY2022)**

| | | | Quantity (t) | Proportion (%) |
|---|---|---|---|---|
| Disposal methods | Recycling | | 818.0 | 1.9 |
| | Volume reduction and others | | 131.1 | 0.3 |
| | Landfill | In-house | 40,390.5 | 94.8 |
| | | External | 1,286.3 | 3.0 |
| | Total | | 42,625.9 | 100.0 |

**Industrial waste**




**Amount of industrial waste entrusted to external parties for recycling**




#### Management system for in-house industrial waste disposal sites

The Company possesses a managed final disposal site in Iwaki City and operates and manages it on its own responsibility. Furthermore, at the Watanabe final disposal site, we have set up a specialist committee with local residents to promote activities to conserve the abundant natural environment of the area around the disposal site while deepening mutual communication with local residents.

#### Plastic waste

In FY2022, we recycled 77% of plastic waste. We will ensure the complete separation and thorough management of plastic waste and carefully select a contract waste plastic disposal service provider in order to increase the percentage of plastic waste recycled or used for thermal recycling.

**Plastic waste disposal (FY2022)**

| | | Quantity (t) | Proportion (%) |
|---|---|---|---|
| Recycling | | 309.9 | 77.2 |
| | Recycling | 293.1 | 73.0 |
| | Thermal recycling | 16.7 | 4.2 |
| Intermediate processing | | 32.7 | 8.2 |
| Incineration (without thermal recycling) | | 29.0 | 7.2 |
| Landfill | | 29.7 | 7.4 |
| Total | | 401.3 | 100 |

* "Recycling" includes recycling into solid fuel.

#### Disposal of polychlorinated biphenyl (PCB) waste

With the aim of completing the disposal of flow-concentration PCB waste as early as possible, we are working to recover and restore the waste appropriately while managing progress at each site.

**Voice**

#### New waste reduction initiative —Toward effective use of sludge—

We manufacture titanium dioxide products using iron-containing ores as raw materials. The iron and titanium dioxide residue after production form sludge. To reduce this kind of industrial waste, we are working to optimize the conditions for iron separation, improve product yield, and effectively use the iron residue. To effectively use the iron residue, we convert it into iron sulfate and further process iron sulfate into polyferric sulfate (Polytetsu®) to distribute iron sulfate and polyferric sulfate as products. In addition, last fiscal year, we started working out a new method of utilizing the iron residue as the key to waste reduction. We will continue our efforts to achieve our waste reduction targets.


Masayuki Asada
Production Technology Department,
Onahama Manufacturing Site

* Polytetsu® is the product name of an iron-based inorganic flocculant trademarked by Nittetsu Mining Co., Ltd.

# For Our Planet

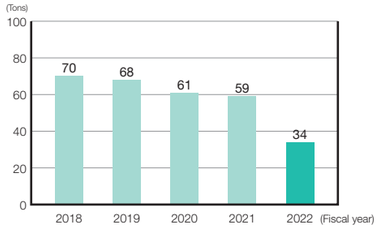
## Initiatives to prevent pollution and reduce environmentally hazardous substances

Environmentally harmful substances must not be discharged into the external environment. Sakai Chemical Industry will continue its efforts to enhance the system for monitoring these kinds of substances.

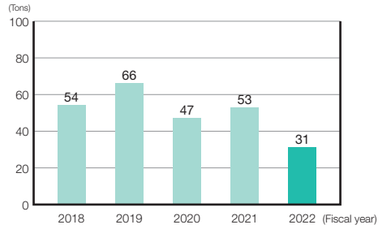
### Air pollutant emissions

Compared with FY2021, both NOx and SOx emissions for FY2022 decreased. We believe this is due to a decrease in production volume in addition to the disuse of the relevant equipment. We will continue to tightly manage these air pollutants on our own through such measures as inspecting exhaust gas-emitting facilities to not only comply with applicable laws and regulations but also reduce pollutant emissions.

NOx emissions




SOx emissions

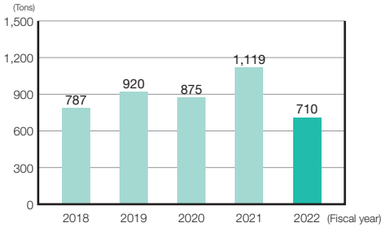



* The number of relevant facilities has decreased due to the disuse of some of them and the revised Order for Enforcement of the Air Pollution Control Act, which came into effect on October 1, 2022.

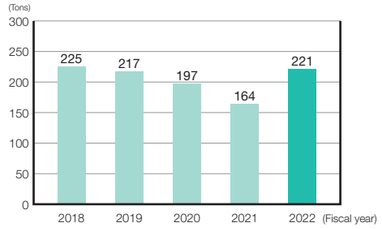
### Water pollutant discharges

Compared with FY2021, the total nitrogen discharge for FY2022 decreased, while the COD for the same year increased. We will continue to strive to keep our water pollutant discharges lower than the regulation limit values by establishing and enhancing our wastewater monitoring system in order to control, maintain and manage water pollutants discharged in wastewater, such as nitrogen, as well as the values of indicators for the level of water pollution, including the COD.

Total nitrogen discharge




COD




### Pollutant Release and Transfer Register (PRTR)-listed substances emitted and transferred

For FY2022, the amounts of PRTR-listed substances emitted into the air and discharged into water bodies, as well as PRTR-listed substances transferred, all decreased. We will continue to work to reduce PRTR-listed substance emissions and discharges by improving our production processes and enhancing the yield.

(Unit: tons)

| PRTR-listed substances | Emissions | | | | | | Amount transferred | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY2020 | | FY2021 | | FY2022 | | FY2020 | FY2021 | FY2022 |
| | Emissions to the atmosphere | Discharges to water bodies | Emissions to the atmosphere | Discharges to water bodies | Emissions to the atmosphere | Discharges to water bodies | Waste | Waste | Waste |
| Water-soluble zinc compounds | 0.00 | 0.50 | 0.00 | 0.030 | 0.00 | 0.030 | 0.00 | 0.00 | 0.00 |
| Antimony and its compounds | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Calcium cyanamide | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cobalt and its compounds | 0.00 | 0.00 | 0.00 | 0.040 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2.6-di-tert-butyl-4-cresol | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Organic tin | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Thiourea | 0.00 | 136.8 | 0.00 | 249.8 | 0.00 | 218.8 | 28.2 | 35.4 | 30.6 |
| Copper water soluble salt | — | — | — | — | 0.00 | 0.00 | — | — | 0.00 |
| Lead compounds (specific class 1 designated substance) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.8 | 2.7 | 3.1 |
| Zirconium dichloride | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.4 | 0.92 | 2.3 |
| Nickel compounds (specific class 1 designated substance) | 0.00 | 0.18 | 0.00 | 0.65 | 0.00 | 0.45 | 3.5 | 14.2 | 12.6 |
| Vanadium compounds | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.20 | 0.17 |
| Boron and its compounds | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Manganese and its compounds | 0.00 | 23.6 | 0.00 | 35.1 | 0.00 | 37.0 | 273.3 | 297.0 | 230.2 |
| Methylnaphthalene | 0.048 | 0.00 | 0.043 | 0.00 | 0.022 | 0.00 | 0.00 | 0.00 | 0.00 |
| Molybdenum and its compounds | 0.00 | 2.7 | 0.00 | 3.9 | 0.00 | 5.0 | 0.15 | 0.73 | 0.74 |
| Phthalic anhydride | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 |
| Total | 0.048 | 163.7 | 0.043 | 289.6 | 0.022 | 261.3 | 311.4 | 351.1 | 279.8 |



# Relationships with Business Partners

## Basic Quality Policy

We will contribute to society by continuously improving the effectiveness of our quality management system, emphasizing product safety, and achieving stable, high-quality supply at low cost in order to improve customer satisfaction.

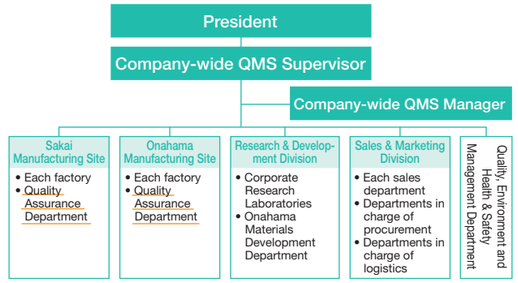
## Quality management activities

Sakai Chemical Industry operates a quality management system (QMS) and is certified to meet ISO 9001, an international QMS standard.

The 8th ISO 9001 renewal audit conducted in December 2022 confirmed that our QMS was maintained appropriately, with no nonconformities or minor defects.

We are striving to provide greater customer satisfaction by managing our entire supply chain—from the procurement of raw materials through production to the delivery of products to customers—for quality assurance.

Organizational chart of the QMS functions (as of April 2023)




## Initiatives for greater customer satisfaction

### Enhancing the quality assurance system

The Quality Assurance Department, established at both the Sakai Manufacturing Site and the Onahama Manufacturing Site on April 1, 2022, utilizes the Company-wide system for issuing test records, which was introduced around the same time, to increase the reliability of product quality and more effectively prevent the release of nonconforming products due to misjudgments on test results or falsification of product test data.

In addition, the Quality, Environment and Health & Safety Management Department hosts regular meetings with the department in charge of quality assurance of each division or manufacturing site to identify and resolve issues in order to improve the Company-wide QMS. In FY2022, we focused mainly on the following:

Since the criteria for treating customer inquiries as grievances or complaints against our products had been slightly vague, decision-making on the necessity of corrective measures and the processing of related documents had sometimes needed much time. To resolve this problem, we adopted clearer criteria and began to manage the inquiry treatment process through regular meetings. As a result, the speed of our response to grievances and complaints against our products has been improved.

We have also established the rule to issue a change application before changing manufacturing processes, raw materials, etc. Those applications for changes are approved after being verified and deliberated on by the relevant departments. Our previous rules permitted the omission of application for low-risk changes, but we have revised the rules so that the omission will be permitted only if approved by the person in charge. We have also added new entry items to the change application form, including initial flow management measures to be implemented at the planning stage and a list of customers expected to be affected by the change, so that all necessary issues will be thoroughly examined. Furthermore, we have enhanced change management by standardizing change notification forms to be submitted to customers.

## Initiatives to manage chemicals contained in products

### Creation and issuance of safety data sheets (SDSs)

To ensure that customers can use our products safely, we prepare safety data sheets (SDSs) in accordance with the applicable standards issued by Japanese Industrial Standards (JIS Z 7253:2019) to inform customers about the hazards and damage that chemicals contained in our products can cause. The SDS preparation task is concentrated in the Quality Assurance Department at the Sakai Manufacturing Site and the Onahama Manufacturing Site. We have also introduced an SDS creation support tool to streamline SDS creation and management.

Additionally, we are devising a new method of providing SDSs with a view to beginning to use it within FY2023 so that we will be able to constantly provide the latest information.

### chemSHERPA

We provide customers with information on chemical substances contained in products using chemSHERPA, a system developed and promoted for that purpose by the Japanese Ministry of Economy, Trade and Industry.

### Responses to laws and regulations

Sakai Chemical Industry regularly collects information about applicable laws and regulations and shares it with all Sakai Chemical Industry staff and all Sakai Chemical Group companies. We will continue this initiative in order to perform chemical substance information management appropriately.

### Chemical substance management education

We provide employee education using an e-learning system with the aim of improving their understanding of laws and regulations related to chemical substances. We will continue our efforts to enhance this kind of education to ensure Company-wide commitment to appropriate chemical substance management.

## Initiatives for safe logistics

To ensure the safe transportation of products, the Company holds quality safety meetings with logistics companies, clearly informs those involved in logistics about rules applicable at the manufacturing sites, and patrols those sites. The Company also holds regular safety seminars intended for logistics companies to secure their cooperation in maintaining the safety of logistics. Moreover, in anticipation of accidents in the process of transporting chemicals, we have created an emergency contact card (“Yellow Card”), which carries information about what the driver, firefighters, the police, and other persons involved must do in the event of an accident. Copies of the card have been distributed to logistics companies.