

Nippon Shokubai Group

Sustainability Report 2022

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Sustainability



Message from the President

I will spearhead efforts to push forward transformations and change the Nippon Shokubai Group for the better in a visible way.

Learn more



Latest News on Sustainability

2022.11.25

Nippon Shokubai published “TechnoAmenity Report 2022”, “RC Report 2022”, and “Financial Report 2022.”

2022.10.06

NEDO Adopts Nippon Shokubai and Tokuyama Project to Develop Large Alkaline Water Electrolyzers and Separators Suited to High-pressure Electrolysis

2022.09.12

Investment in a Manufacturer of Lithium Salt as the Electrolyte for Lithium-ion Battery in China

2022.08.23

Selected as a component of FTSE Blossom Japan Sector Relative Index

2022.05.31

Nippon Shokubai and Arkema: a strategic partnership to mass-produce LiFSI electrolyte salt for a European battery supply chain

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- > Stakeholder Communication



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- > RC Initiatives
- > RC Basic Plan and Results
- > Production/R&D Site Reports
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**Status of Certification
Acquisition**



ESG Data



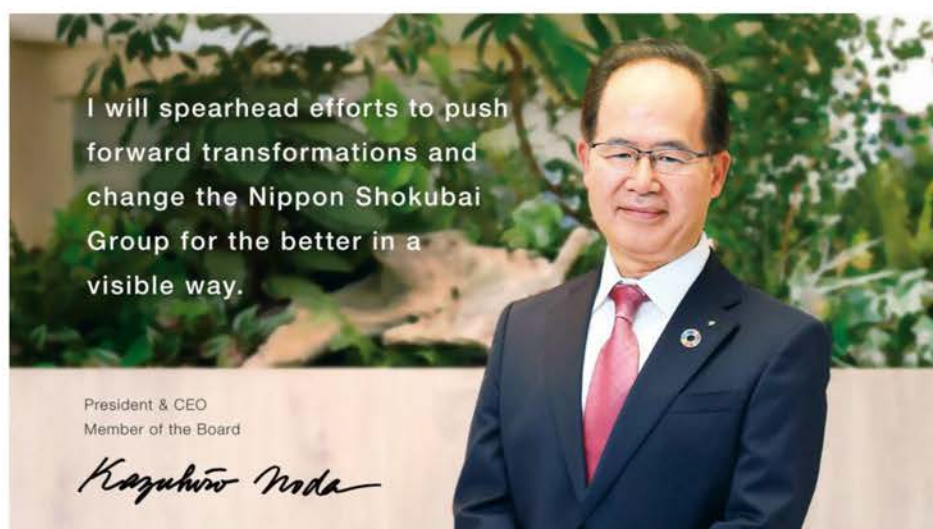
Sustainability Library



**GRI Standards Comparison
Table**



Message from the President



Becoming a company that can grow sustainably by pushing ahead with transformation

I became president of Nippon Shokubai in June 2022. I promoted the formulation of the new Medium-term Management Plan “TechnoAmenity for the future-I” (hereinafter, “Mid-term Management Plan”) when I was in the Corporate Planning Division.

At that time, I considered “what was the most important for the Nippon Shokubai Group” with a strong drive to help change the company for the better.

Although I believe I can contribute to the company no matter what position I take, in the capacity of the president from now on, I am determined to spearhead efforts to advance transformation, further aiming to make Nippon Shokubai an organization with sustainable growth.

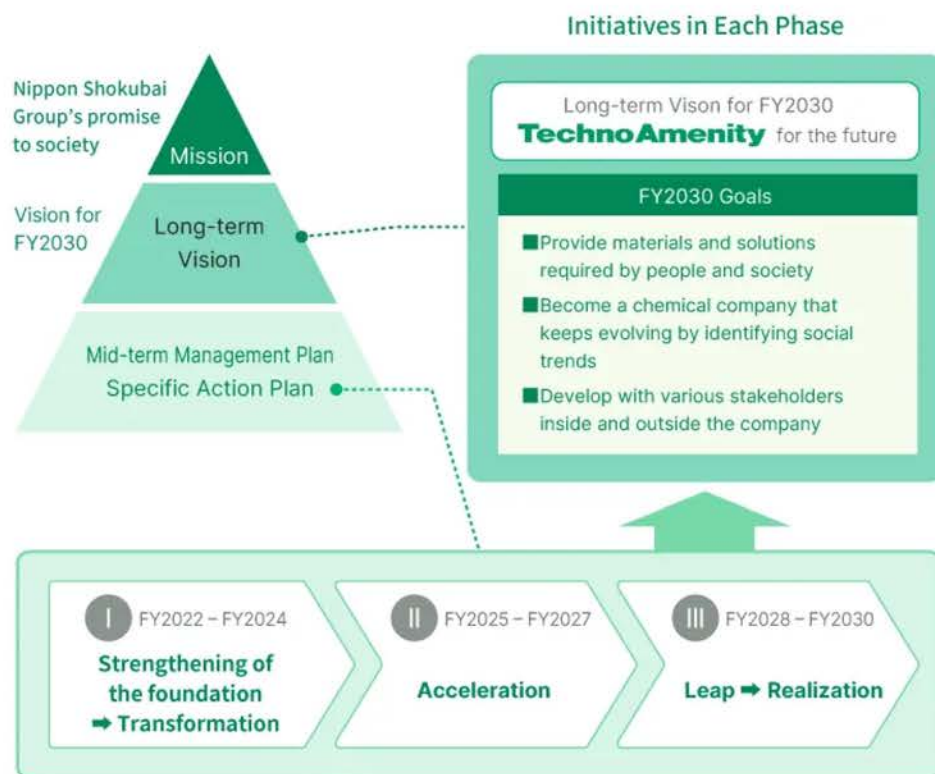
Achieving our Vision with TechnoAmenity as a key axis

The environment surrounding the Nippon Shokubai Group has been changing constantly, with factors including soaring raw materials and fuel prices, movements toward carbon neutrality, and reorganization of the petrochemical industry. These changes will continue to occur, making it increasingly difficult to predict what is going to happen next. Regardless of how the situation changes, however, we have no plans to change our Long-term vision, the direction of the Mid-term Management Plan, or the goals we have set. I believe that what is important is to ultimately achieve

the goals by flexibly revising strategies in response to changes.

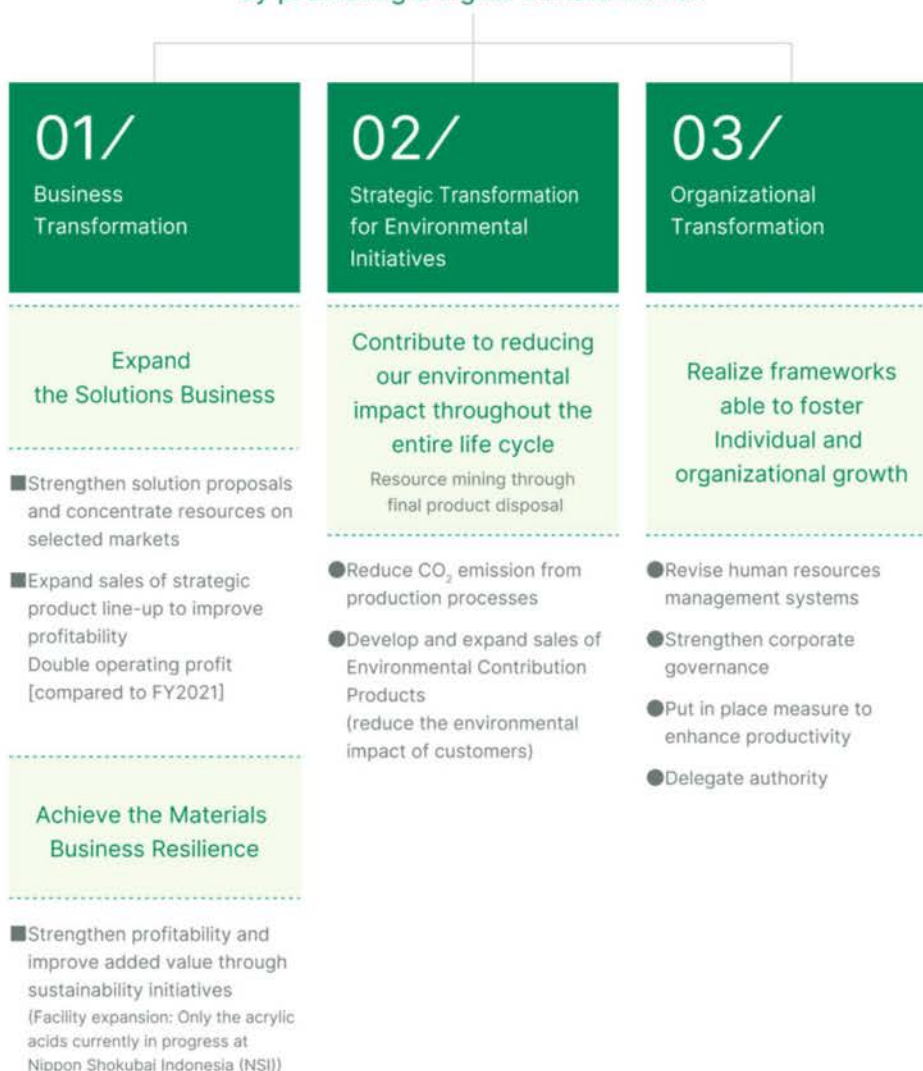
Under these circumstances, it is very important to clearly envision what we want to be. We have the Group Mission “TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology,” in which our strong desire is reflected to contribute to creating a society where people can not only enjoy material affluence but also lead a comfortable life physically and mentally and where people have hope for the future. From the perspective of what the Group can do to realize such a society, we have set the goals we should achieve by FY2030 in the Long-term vision “TechnoAmenity for the future.” We will work together with all our stakeholders toward realizing the Group’s Mission “TechnoAmenity” and our vision and goals.

Position of New Mid-term Management Plan



Three transformations and Initiatives and Target through FY2024

Nippon Shokubai will accelerate the three transformations
by promoting a digital transformation



“Three transformations,” all of which are necessary ingredients for success

In the Long-term Vision and the Mid-term Management Plan, we have set Three transformations: “Business Transformation,” “Strategic Transformation for Environmental Initiatives,” and “Organizational Transformation.” “What is the top priority among these three transformations?” I am often asked, but the three transformations are closely linked. So if we don’t achieve all of them, each transformation will be meaningless. The goal can be only attained by achieving all three transformations.

Strengthening stable earning power

Effective investment is indispensable for the growth of a company. The Nippon Shokubai Group has achieved growth while maintaining a solid financial base thus far. We will not change this conventional policy, and on the other hand we need to carry out improvements in capital efficiency. To do so, I believe that it is important to increase profit margins. If a product has earning power

that matches capital investment, ROA (return on asset) and ROE (return on equity) will be raised. We will push ahead with transformation with a focus on how to strengthen the earning power of each product.

From this fiscal year, our businesses have been reorganized into the two segments of Materials and Solutions. Strategies to be taken differ between the Materials business, which has many products that tend to be influenced by market conditions, and the Solutions business, which has product lines that should be differentiated by function. We are planning to increase profitability by clearly defining the most suitable strategies for individual product lines, leveraging our Group's strengths, and thereby expanding these businesses. By fiscal 2024, we have set the target of increasing the sales ratio between the Materials business and the Solutions business to 65%:35%, and the operating profit ratio to 50%:50%. We aim to reach record-high earnings in fiscal 2024 by making the Materials business more resilient and expanding the Solutions business.

Business Transformation

The Nippon Shokubai Group, which has many competitive, unique technologies, has achieved growth by offering materials that meet the needs of individual customers. However, this is no longer enough to respond to diversifying customer needs. We are now in an era when it is difficult to help customers resolve increasingly diverse issues without fully understanding such issues from their perspectives and offering multiple technologies and product lines as solutions to them. In retrospect, it can be said that we had been responding to customer needs in a relatively passive manner. From now onward, it is necessary to approach our customers more proactively. We should share the problems that are really facing them, propose solutions to such problems, and increase our customers' awareness of our technologies and products. This will help increase their expectations of and trust in our Group, ultimately leading to enhancing our corporate value. In the Mid-term Management Plan, we have designated 10 markets as Selected Markets to leverage our strengths. At first sight, it may seem like too many "Selected Markets," but encompassing a broad range enables us to watch the markets as a bird's-eye perspective. We can select the market at any given time, which to be more noteworthy, or which to allocate more resources, from those whole. The commercialization of a product requires a certain period of time for consideration at a pilot facility and the establishment of a production system. In terms of the current mid-term management period, the facilities of the product groups invested during the previous mid-term management plan period—for example, electronics-related products (ACRYVIEWA™) and water treatment-related products (ethyleneimine derivatives)—are operating at full capacity and will drive earnings. In addition, we will actively invest resources in battery materials (IONEL™) for the present three-year period and make them one of the pillars for profit growth for the following three-year period.

On the other hand, the life cycle of products tends to be shorter than before. The key to success is how quickly we can recoup investment and make a profit after a product is launched. We must keep a close eye on market trends to identify the market in which we can leverage our strengths and continue to introduce new products into a market in a timely manner. Nippon Shokubai Group boasts a large number of excellent researchers, but in many cases, it took a long time before commercialization. Given this situation, we have thoroughly reviewed the conventional system and introduced a new system that enables not only the Research Division but also other relevant divisions, such as the production, planning and sales divisions, to get involved from the early phase of development to discuss market needs, product viability and facility preparations, and share such

information. I believe this new system will shorten the time required for commercialization and thereby launch more products into markets.

Strategic Transformation for Environmental Initiatives

With increasing expectations toward the realization of carbon neutrality, our customers are also considering reducing CO₂ emissions in the supply chain as a whole. Response to carbon neutrality is no longer an option but strategically imperative for us. I believe that the chemical industry has a major role to play in achieving carbon neutrality.

We in the Group have set the goal of reducing CO₂ emissions by 30% by 2030, aiming to achieve carbon neutrality by 2050. A significant issue in considering specific measures is how to balance CO₂ reduction measures and the costs required for them. Since the use of biomass materials and the introduction of renewable energy increase costs, it is necessary to push forward with such initiatives while considering how to share the costs among the supply chain members as a whole, including suppliers and customers.

At production sites, efforts have been promoted to increase the efficiency of raw materials and energy and reduce their environmental impact through waste reduction initiatives. However, the updating of aging facilities is another common issue facing the chemical industry.

At our company, we don't just replace aging facilities, and replace it with more productive facilities. In addition, we are actively improving our processes to reduce the amount of raw materials and energy used through the adoption of sophisticated control and high-efficiency production technologies.

Regarding business operations, I believe that our Group's technological capabilities can be utilized in environmental fields. In terms of expansion of the use of hydrogen, for instance, we have developed ammonia decomposition catalysts and a separator for alkaline water electrolysis. For the capture and reuse of CO₂, we are going to deploy CO₂ absorption materials and CO₂ conversion catalysts. I recognize that it is the Group's duty to lead these strengths to growth, eventually realizing its mission "TechnoAmenity."

It is difficult to achieve carbon neutrality only through each individual company's efforts.

Cooperation among all the supply chain members is indispensable. With regard to biomass materials and materials for recycling, it is also necessary to share challenges with suppliers and work in collaboration to resolve them.

In these ways, we have been promoting various initiatives toward achieving carbon neutrality. We will endeavor to link these initiatives to contribution to environmental preservation and our Group's growth while considering the balance with costs and what cooperation and collaboration ought to be.

Organizational Transformation

To change and grow a company as a whole, each employ needs to continue to grow. In April 2022, Nippon Shokubai introduced human resources management systems to appreciate talent who take on challenges. To ensure that these new systems work properly, superiors need to evaluate their subordinates' proposals and challenges appropriately. To do so, it is important to change evaluators' mindsets, improve evaluation capability, and create an organizational culture of openness that allows employees to actively make suggestions. As part of such initiatives, a system

was launched last year that enables employees to advance various types of proposals to the management. We will continue to endeavor to promote more active and open communication than before.

Diversity is another important factor in strengthening the organization. I myself have had many opportunities so far to interact with overseas customers and business partners, through which I have been able to learn a lot. Different people have different views and ideas. I believe that encounters with diverse views can bring about new ideas, eventually leading to improving the strength of an organization.

For the reform of corporate governance, we have made clear the functions and roles of the Board of Directors and the Corporate Managing Committee, and have changed their operation methods in stages. Board meetings and Corporate Managing Committee meetings have discussed similar agenda items so far, but Board meetings will mainly take up matters to be discussed, including mid- and long-term strategies, from the perspective of the Group as a whole.

In pursuit of “growth”

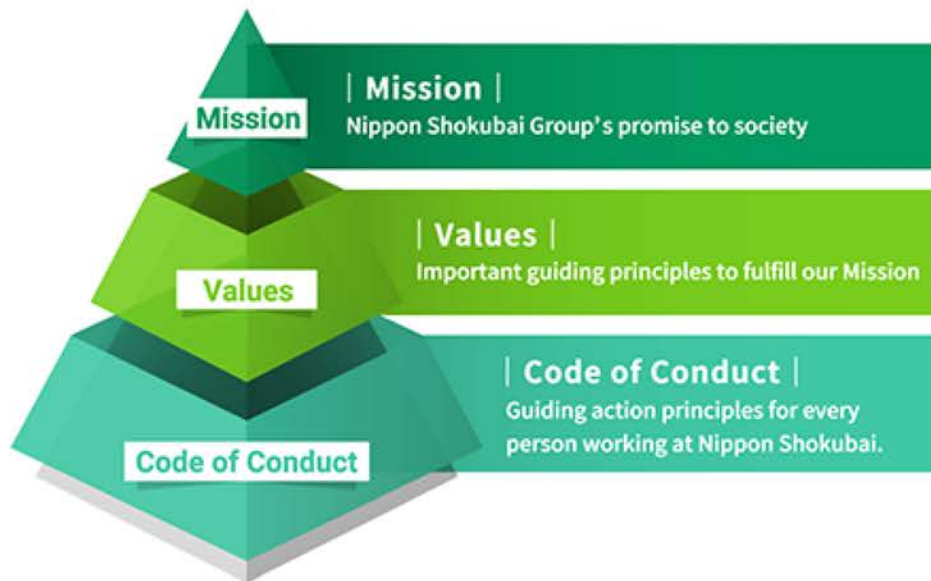
Companies are required to grow sustainably. On the other hand, I think the question is what “growth” means to a company. In other words, importance should be placed not only on growth in figures, such as sales and profits, but also on growth that cannot be measured in numerical terms, such as how the company contributes to society and whether its employees can obtain high levels of job satisfaction. I believe that we will be called a good company only if we can grow sustainably in various aspects. I would like to improve Nippon Shokubai visibly by placing special emphasis on dialogues within and outside the company and actively adopting useful suggestions.



Group Mission Framework / Safety Philosophy



Group Mission Framework



Mission

TechnoAmenity

Providing prosperity and comfort to people and society,
with our unique technology.

Values

Respect Diversity

We will create new value by respecting the unique traits of each person.

Pioneer New Possibilities

We will courageously provide solutions to customer challenges and social issues.

Contribute to Global Environmental Preservation

We will work to ensure a better global environment is passed down to the next generation.

Code of Conduct

Every person working at the Nippon Shokubai Group will carry out business activities with commitment to the guiding principles below.

01

Realizing a sustainable society

We will contribute to the realization of a sustainable society by putting the Group Mission into practice.

02

Safety first

We will execute our business activities by always ensuring both internal and external safety.

03

Compliance

We will enforce thorough-going compliance in every area.

04

Respect for human rights

We will support international human rights standards and respect the human rights of all people touched by our business activities

05

Fair and honest business dealings

We will engage in fair and sincere business activities with all of our stakeholders.

06

Providing value to our customers

We will provide materials and solutions needed by customers

07

Preserving the environment

We will help reduce our environmental impact and help tackle environmental issues through technology.

08

Communicating with stakeholders

We will actively disseminate information and dialogue with stakeholders.

09

Promoting active participation of diverse human resources

We will recognize and respect diversity so that every person and organization reaches their full potential.

10

Contributing to local communities

We will contribute to the development of local communities as a member of those communities.

[Code of Conduct \(279KB\)](#) 

Safety Philosophy

Safety takes priority over production.

Meaning of the Corporate Symbol

Our corporate symbol represents the spirit of TechnoAmenity.



Hexagon: One of the fundamental symbols used in chemistry



Cosmo yellow: Represents the hidden energy of the sun



Earth green: Represents the life-supporting nature of the earth



Horizon between two colors: Represents the future we always seek



Code of Conduct

Nippon Shokubai Group

Implemented April 2022

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Group Mission Framework

Group Mission Framework



Mission

Nippon Shokubai Group's
promise to society

Values

Important guiding principles
to fulfill our Mission

Code of Conduct

Guiding action principles for every person
working at Nippon Shokubai Group

Safety Philosophy

"Safety takes priority over production"

Group Mission Framework



Mission

TechnoAmenity

Providing prosperity and comfort to people and society,
with our unique technology

Values

Respect Diversity

We will create new value
by respecting the unique traits of each person.

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We will work to ensure a better global environment
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Group Mission Framework

Code of Conduct (Summary)

Every person working at the Nippon Shokubai Group will carry out business activities with commitment to the guiding principles below.

1. We will contribute to the realization of a sustainable society by putting the **TechnoAmenity** Group Mission into practice.
2. We will execute our business activities by always ensuring both internal and external safety.
3. We will enforce thorough-going compliance in every area.
4. We will support international human rights standards and respect the human rights of all people touched by our business activities.
5. We will engage in fair and sincere business activities with all of our stakeholders.
6. We will provide materials and solutions needed by customers.
7. We will help reduce our environmental impact and help tackle environmental issues through technology.
8. We will actively disseminate information and dialogue with stakeholders.
9. We will recognize and respect diversity so that every person and organization reaches their full potential.
10. We will contribute to the development of local communities as a member of those communities.



Code of Conduct (Full version)

1. Realizing a sustainable society

We will contribute to the realization of a sustainable society by putting the **TechnoAmenity** Group Mission into practice.

(1) Contributing to the future for people and society

- a. We will use our unique technology to provide economic, physical, as well as social and spiritual prosperity and comfort to people and societies throughout the world. By doing this and proactively tackling the social issues and customer challenges, we will help bring about a sustainable change.

2. Safety first

**We will execute our business activities
by always ensuring both internal and external safety.**

(1) Comprehensive process safety and disaster prevention

- a. Recognizing that safety is the foundation of our existence, we will observe all laws, ordinances, and regulations concerning security and disaster prevention.
- b. We will ensure the safety and well-being of workers, their families, and society through comprehensive implementation of programs to prevent explosions, fires, leakage of hazardous materials, and accidents and disasters that may harm the environment and people.

(2) Workplace health and safety

- a. We will strive to eliminate work-related disasters, and we will observe all laws, ordinances, and regulations concerning workplace health and safety.
- b. We will consider our health as well as the health of those working with us and will strive to maintain and enhance a workplace environment in which everyone can be assured of safety and comfort.

2. Safety first

(3) Business continuity

- a. We will formulate a business continuity plan and take other appropriate organizational initiatives and measures to ensure our workers' safety and maintain our business activities in the face of threats, such as earthquakes, floods, and other natural disasters, pandemics, and cyber-attacks.
- b. In the event of an actual threat, we will take the appropriate steps in accordance with our predetermined guidelines and procedures for response.

3. Compliance

We will enforce thorough-going compliance in every area.

(1) Observance of the relevant national and local laws, ordinances, and regulations and business ethics

- a. We will observe the relevant laws, ordinances and regulations in the countries and regions where we do business, and our codes of conduct and in-house rules. We will behave with integrity, fairness, good will, in a self-directed fashion, and law-abiding spirit.

(2) Thorough-going compliance

- a. We will diligently collect information about the laws, ordinances, and regulations that govern our business activities.
- b. We will implement thorough-going compliance, including formulating in-house rules and manuals and offering opportunities, such as educational and training sessions.

3. Compliance

(3) Reporting and review of behavior that violates the Code of Conduct

- a. When we learn of behaviors that violate laws, ordinances, regulations, our in-house rules, or our Code of Conduct, we will promptly report and discuss it with the relevant supervisor. In cases where this is not feasible, we will discuss the incident and report it to the company's consultation desk or internal whistleblower desk.
- b. The internal whistleblower desk will protect whistleblowers' identities and promptly conduct an investigation of the relevant facts.
- c. We will not condone reprisals against persons who reported incidents in good faith or who cooperated in our investigations but will treat them fairly to avoid putting them in an unfavorable position.



4. Respect for human rights

We will support international human rights standards and respect the human rights of all people touched by our business activities.

(1) Respect for human rights

- a. We will respect everyone's human rights and will not engage in any conduct that unfairly discriminates or harms the dignity of an individual, regardless of the reason.
- b. We will prevent human rights violations by respecting international human rights standards, and the laws and ordinances of each country and region. In the event of a violation, we will respond appropriately and with fairness.
- c. Recognizing that our business activities have an impact on human rights, we will not provide products to firms or groups that commit or promote human rights violations, and we will not take part in purchasing any products or services from such firms or groups.

(2) Prohibition against forced labor and child labor

- a. Under no circumstances will we ever engage in forced labor or child labor, and we will not allow forced labor or child labor to take place in our supply chain.

4. Respect for human rights

(3) Prohibition against discrimination

- a. Under no circumstances will we ever engage in discrimination based on gender, age, nationality, race, ethnicity, social status, place of origin, beliefs, creed, religion, physical characteristics, sexual orientation, sexual identity, or disease or disability.

(4) Prohibition against harassment

- a. Under no circumstances will we ever engage in sexual harassment, abuse of power, pregnancy discrimination, or other discriminatory behaviors against another person, or do anything that threatens them or makes them uncomfortable, regardless of whether such threat is physical or emotional.

5. Fair and honest business dealings

**We will engage in fair and sincere business activities
with all of our stakeholders.**

(1) Fair and free dealings

- a. We will observe the relevant laws, ordinances, and regulations concerning fair and free competition and business activities in other countries and regions where we do business. We will avoid any conduct which restricts free and fair market competition (abuse of market dominant position, cartel, and unfair trade practice) in every business activity including sales, procurement, research and development, and manufacturing, in order to ensure free and fair business activities.

(2) Prevention of bribery and corruption

- a. We will not commit any violation of anti-bribery laws of any country, including making inappropriate payoff, offering or promising to pay money/anything of value, to public officials or will not make any illegal facilitation payment (small payments for speeding up bureaucratic procedures).
- b. We will not aid, abet or authorize any of such illegal conduct by any third party.
- c. We will not provide with or accept any entertainment and gifts, which go beyond the bounds of socially accepted limits, to/from clients, customers and other business partners.

5. Fair and honest business dealings

(3) Respect for trade-related laws and ordinances

- a. In trading raw materials and products, we will follow proper trade procedures in accordance with the relevant laws and ordinances and will not trade in contraband.
- b. We will not export technology that will be used as information, materials, or products in the production of weapons of mass destruction that would interfere with the preservation of international peace and safety, including nuclear, chemical, and biological weapons.

(4) Responsible procurement

- a. Because our business activities are dependent on the cooperation of the many people and companies in our supply chain, we will promote responsible procurement practices and engage in transactions that are honest and proper.
- b. We work with our business partners so that they understand and relate with our Code of Conduct as we engage with them.

(5) Proper management and use of corporate assets

- a. We will not use the company's tangible and intangible assets, including its products, equipment, supplies, information, and intellectual property, for personal or inappropriate purposes; we will manage and use these assets so as to prevent their loss, theft, or improper use and ensure their effective use.



5. Fair and honest business dealings

(6) Respect for and use of intellectual property

- a. We will strive to protect our intellectual property rights and use them in effective way, as we believe that patents, trademarks, designs, knowhow, trade secrets, and publications are key corporate assets and the source of our competitive strength.
- b. In the manufacture and sale of our products, research and development, provision of service, and other business activities, we will respect the intellectual property rights of others and will not infringe on them.
- c. We will proactively use our intellectual property in open innovation and other external partnerships, and we will develop and provide innovative and effective products and services for solving the problems facing society and our customers.

(7) Information security

- a. We will closely control access to our information assets and data systems in order to prevent unauthorized access, loss, leaks, manipulation, destruction, and hacking.
- b. We will formulate measures to counter threats to our computer network and endeavor to minimize any damage to ourselves and others.
- c. On an ongoing basis, we will review our framework for responding to incidents should they occur.

5. Fair and honest business dealings

(8) Management of confidential information

- a. We will strictly manage the confidential information of others obtained in the course of business.
- b. We will not allow unauthorized disclosures or leaks, and we will not permit such information to be used for purposes other than those intended, nor will we permit viewing by uninvolved parties.

(9) Proper accounting practices and tax compliance

- a. In accordance with the laws and ordinances concerning accounting standards in the countries and regions where our Group does business, we will work to build effective systems of internal control and use accurate and proper accounting practices.
- b. We place great importance on tax compliance, and we will observe each country's and region's laws and ordinances concerning corporate taxation, etc., as well as tax treaties and international taxation rules.

(10) Protection of personal information and privacy

- a. We respect individuals' privacy and collect personal information to the extent necessary and appropriate. Also, we strictly manage the personal information that we collect and will not disclose it to third parties or use it for other than its intended purpose, except in cases required by law or where we have received advance permission from the individual in question.

5. Fair and honest business dealings

(11) Prohibition against individual conflicts of interest

- a. We will not commit any act that uses information gained in the course of business to seek personal profit, or that is contrary to the company's interest.
- b. We will not abuse our corporate position or authority, nor will we seek personal profit or cause the company to lose money in violation of our job responsibilities.
- c. We will not engage in any personal transactions that compete with the Group, nor will we engage in any conduct that competes with the Group, such as becoming a manager or key investor at a competitor.

(12) Dealing with antisocial forces

- a. We will have absolutely nothing to do with antisocial forces that threaten public order and safety or the stable business of the company, whether it is through business relations, money laundering, and other means of providing profits to those involved in such forces.
- b. We will take a firm stance in rejecting improper demands from antisocial forces.

6. Providing value to our customers

We will provide materials and solutions needed by customers.

(1) Providing solutions to our customers' problems

- a. We will provide products and services that are responsive to our customers' needs and solve their problems.
- b. We will innovate to drive forward with solutions to the needs of society and our customers.

(2) The “three actuals” principle

- a. In all of our tasks, we will relentlessly observe the actual locations, actual objects, and actual realities that underlie all of our work. The resulting ideas allow us to take judgments and actions that are free of preconceptions.

(3) Providing safe and reliable products and services

- a. We will meet our customers' needs and specifications, ensuring safety and quality so that our customers can confidently use our products and services.
- b. We will respond promptly and sincerely to our customers' inquiries and feedback and incorporate their feedback into enhancing and developing our products and services.

6. Providing value to our customers

(4) Providing safe, high-quality information

- a. When providing products and services, we will properly furnish the necessary information regarding quality and safe usage in an easily understandable way.
- b. We will not falsify any of our business data or falsely represent that we have acquired data that we have not.

(5) Dealing with product-related accidents

- a. In the event of a problem with the safety or quality of a product that we have provided to a customer, we will respond promptly and sincerely and will take the appropriate steps to find the cause and prevent recurrences.

7. Preserving the environment

We will help reduce our environmental impact and help tackle environmental issues through technology.

(1) Harmony with the global environment

- a. Based on the desire to leave a better global environment to the next generation, we are controlling emissions of hazardous materials and are taking initiatives to address environmental issues.

(2) Climate change initiatives

- a. Besides reducing emissions of carbon dioxide and other greenhouse gases in our business activities, we are helping to reduce emissions throughout the supply chain by creating environmental contribution products, thus contributing to bringing about carbon neutrality.

(3) Efficient use of resources

- a. We are actively involved in resource conservation, waste reduction, and recycling efforts, so that our limited and precious resources can be used more efficiently.

(4) Preserving biodiversity

- a. Recognizing that our business activities do affect biodiversity, we are promoting a deeper understanding and awareness of preserving biodiversity and biodiversity-friendly programs.

8. Communicating with stakeholders

**We will actively disseminate information
and dialogue with stakeholders.**

(1) Fair disclosure of information

- a. We disclose timely and accurate information about ourselves in accordance with the relevant legislation, and we are transparent in our explanations.
- b. We take the initiative to actively disclose our financial information as well as such non-financial information as our mission, policies, business performance, environmental programs, and stakeholder relations, the better to deepen understanding about our Group among shareholders, investors, and other stakeholders.

(2) Communicating with stakeholders

- a. We will actively engage in dialogs with our various stakeholders, including customers, business partners, employees, local communities, government bodies, shareholders, and investors, and strive to build and maintain long-term relationships of trust with them and to gain their support for the Group's business initiatives. So that we will increase our corporate value.
- b. We appreciate both positive and negative feedback from those outside the Group, and we strive for two-way communication.

8. Communicating with stakeholders

(3) Prohibition against insider trading

- a. We will not buy or sell shares or other securities or recommend their purchase or sale to others based on material non-public information (information that would significantly affect the share price if disclosed) about our Group or its business partners gained in the course of business.
- b. If we possess material non-public information, we will not leak such information prior to its disclosure.

9. Promoting active participation of diverse human resources



**We will recognize and respect diversity
so that every person and organization reaches their full potential.**

(1) Respecting diversity

- a. We will create a working environment and culture where employees can work with diversity and mutual respect and can grow together.
- b. We, as professionals, will make every effort to show his or her individuality and ability, which will lead to innovation.

(2) Fair hiring, labor, and compensation

- a. We will treat everyone fairly in accordance with their work skills and performance.
- b. In assigning work locations, we will take into consideration our employees' ability and track record in performing their jobs well and getting their work done, their childcare and care-giving responsibilities, and their orientation.
- c. We will maintain sound hiring and labor practices, and our treatment of employees regarding wages work hours, vacations, and the like will conform to the relevant laws and ordinances of the respective countries and regions.

9. Promoting active participation of diverse human resources



d. In accordance with the relevant laws and ordinances of each country and region, we will respect the right to form or participate in labor unions, the right to engage in collective bargaining, and the right to assemble peacefully. We will also build healthy management-labor relations through dialog.

(3) Promoting work-life balance and developing skills

- a. We will enhance each person's job satisfaction and skills by allowing them to have a balance between their job and their personal life, which may entail child-rearing, care-giving, and medical treatment, thus creating a work culture that engenders high performance.
- b. We will respect each individual's orientation, and will work in cooperation with them, taking into consideration their family situation, including childcare, care-giving, and other personal circumstances.
- c. We strive to develop everyone's skills and build their careers through a variety of training opportunities, including on-the-job training, in-house and off-site training sessions, and self-study courses.
- d. We will offer ample opportunities for our employees to develop their skills and advance their careers and will support them so that they can take responsibility and pride in proactively tackling and solving the problems they face at work.

10. Contributing to local communities

**We will contribute to the development of local communities
as a member of those communities.**

(1) Respecting local culture

- a. We will respect the natural surroundings, culture, traditions, and customs of the countries and regions where we do business, and we will work together with local communities and contribute to their development.
- b. We will work to participate in and contribute to local communities by means of local procurement and hiring.

End

Nippon Shokubai's Sustainability

Sustainability Management



Materiality



Stakeholder Communication



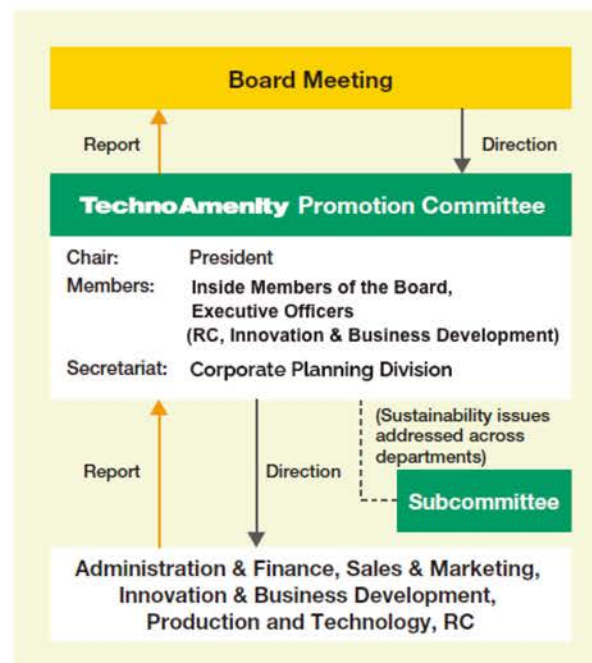
Sustainability Management

Sustainability Policy

We conduct business activities with the determination to contribute to society, under the Group Mission "TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology." We believe that promoting sustainability activities is equivalent to practicing the Group Mission. Based on this belief, we take a comprehensive view of our corporate behavior that encompasses the economy, society and the environment. We therefore prioritize corporate governance, compliance, Responsible Care, risk management, human rights and labor, social contribution, and information disclosure. In implementing actions to increase our corporate value, we emphasize dialogue with our customers, business partners, employees, the communities we serve, public administrators, shareholders and investors, and all other stakeholders. We also endeavor to solve social issues through business activities, thereby contributing to the realization of a sustainable society.

Management System for promoting sustainability

TechnoAmenity Promotion Committee chaired by the president has been organized to implement sustainability initiatives.



Roles of TechnoAmenity Promotion Committee

- Determine group's policies and strategies relating to promote sustainability initiatives.
- Direct each department to formulate plans and measures and evaluate their performance and progress.
- Consider other significant matters relating to promote sustainability initiatives.
- Disseminate information about the initiatives to stakeholders.

Operation for TechnoAmenity Promotion Committee

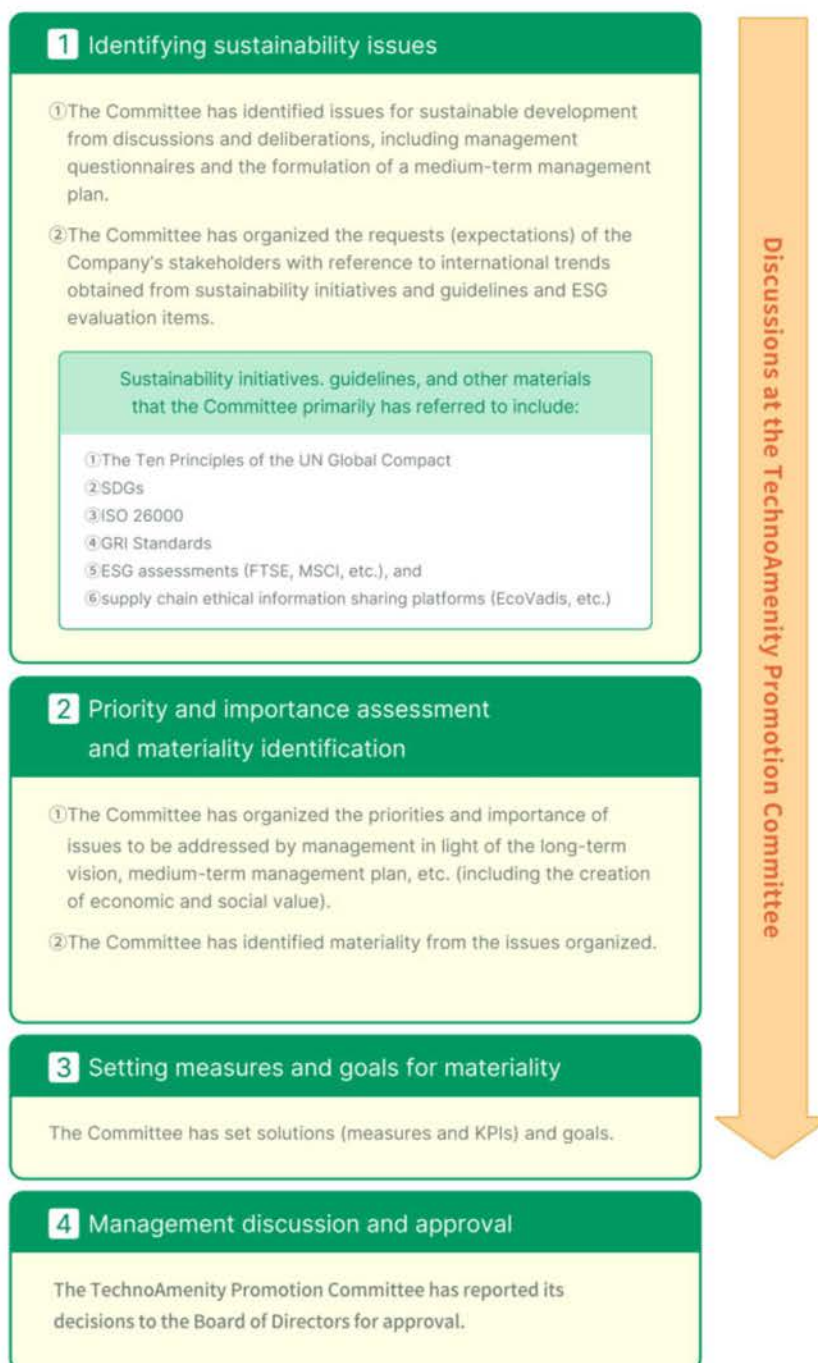
- In principle, the committee meets at least twice a year.
- When it is necessary to consider and adopt measures for important sustainability issues across departments, the committee will establish a subcommittee to assume responsibility for them.

Materiality

The Nippon Shokubai Group has identified materiality (material issues) to be addressed in order to achieve its vision for 2030 as set forth in its long-term vision “TechnoAmenity for the future,” which is to “Provide the materials and solutions required by people and society,” “Become a chemical company that keeps evolving by identifying social trends,” and “Develop with various stakeholders inside and outside the company.”

The content of material issues will continue to be reviewed and revised on a regular basis.




Materiality Identification Process



Materiality and Initiatives




Promote climate change response

Initiatives	KPI and their ideal state	Year of achievement	Contribution to SDGs
-------------	---------------------------	---------------------	----------------------

Contribute to carbon neutrality	<ul style="list-style-type: none"> • Scope 1, Scope 2: reduce CO₂ emissions by 30% from the 2014 level (Nippon Shokubai and Group Companies in Japan) 	End of FY2030	
Contribute to the circular economy	<ul style="list-style-type: none"> • Develop and socially implement technologies for resource use reduction and recycling 	—	
Promote the development and sales of Environmentally Contribution Products	(1) 55 billion yen (2) 135 billion yen	(1) End of FY2024 (2) End of FY2030	

* CO₂ emissions : Our Group's emissions reduction targets are for greenhouse gases, but since they are mostly carbon dioxide (CO₂), they are referred to as CO₂.



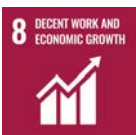
Contribute to solving customer issues

Initiatives	KPI and their ideal state	Year of achievement	Contribution to SDGs
<ul style="list-style-type: none"> • Strengthen the company's ability to understand issues and propose solutions • Strengthen the supply chain management 	(1) Develop a platform to strengthen solution proposals (2) Expand the Solutions business to achieve the dual focus of the Materials and Solutions businesses (Sales ratio of 50% each, revenue of the 500 billion yen level)	(1) End of FY2024 (2) End of FY2030	  

Promote safe and stable production activities

Initiatives	KPI and their ideal state	Year of achievement
<ul style="list-style-type: none"> • Strengthen the safety foundations • Foster a culture of safety 	<ul style="list-style-type: none"> • Third-party evaluation: maintain above industry standards for the petroleum and petrochemical industries 	—

Developing/Promoting the Active Participation of Talent

Initiatives	KPI and their ideal state	Year of achievement	Contribution to SDGs
Develop autonomous talent	<ul style="list-style-type: none"> • Improve the employee engagement score (transformation and growth of people and workplaces through early establishment of a new personnel system, linkage with multi-layered measures, and organizational improvement) • Increase in the number of applicants for solicit publicly proposed autonomous learning programs (e-learning, skill development training, online English conversation classes, etc.) and make these programs better known within the company 	End of FY2024	  
Promote the active participation of diverse talent	<ul style="list-style-type: none"> • Improve the employee engagement score (promotion of suitable assignments, individual motivation, and diverse and autonomous work styles through various systems such as self-assessment and the continuity of work location) • Increase the ratio of woman employees hired in the clerical and chemical fields to at least 30% • Increase the ratio of woman in managerial position to 6% or more 	End of FY2024	

Strengthen corporate governance

Initiatives	KPI and their ideal state	Year of achievement
Enhance the effectiveness of the Board meeting	<ul style="list-style-type: none"> • Improve the effectiveness of the Board meeting by enhancing its decision-making of management policy and strategy, and supervisory functions 	End of FY2024
Ensure the knowledge, experience, skills, and diversity of the Board meeting	<ul style="list-style-type: none"> • Disclose a skills matrix of the Board meeting • Satisfy the skills matrix of the Board meeting 	End of FY2022 End of FY2024
Enhance medium- to long-term incentives for corporate officers	Introduce stock-based compensation for internal Members of the Board, etc.	End of FY2022

Stakeholder Communication

The Nippon Shokubai Group undertakes various initiatives to help stakeholders better understand the Company so that cooperation-oriented dialogue is more meaningful and geared toward achieving the Group Mission.

Stakeholders	Our approach	Main opportunities for communication
Customers	Create innovation that are responsive to our customers' needs and solve their problems, and provide safe and reliable products and services.	<ul style="list-style-type: none"> • Communicating and providing support during sales and marketing • Appearing at exhibitions • Providing information through our product pamphlets, corporate website and other avenues • Responding to inquiries made on the telephone/through our corporate website
Business partners	Establish trust-based relationships with our business partners through fair and impartial business dealings, and promote sustainable procurement initiatives.	<ul style="list-style-type: none"> • Communicating and providing support during purchasing • Distributing CSR Procurement Guidelines • Providing information through our corporate website and other avenues • Administering and gaining feedback from CSR supplier surveys
Employees	Create workplaces where everyone respects and accepts each other's differences and can work free of worry, and help each and every employee find motivation and optimal work styles.	<ul style="list-style-type: none"> • Labor-management council meetings • Safety and Health Committee meetings • Talent development measures • Evaluation consultation, Career consultation • Company newsletters, portal site • Company events • Internal reporting system
Local Communities	Engage in proactive dialogue and establish trust-based relationships with local communities, and work with them to help them develop.	<ul style="list-style-type: none"> • Environmental preservation-activities • Local cleanup campaign • Interactive activities with local communities • The community dialogue undertaken by the JCIA's Responsible Care Committee • Developing the next generation
Public administrators	Fulfill our corporate responsibility by complying with laws and	<ul style="list-style-type: none"> • Participation in committees and councils associated with governments and public agencies

	regulations, participating in policymaking, and more.	through industrial associations and other avenues
Shareholders and investors	Make efforts to improve corporate value by establishing trust-based relationships with shareholders and investors through fair disclosure and proactive dialogue.	<ul style="list-style-type: none"> • Shareholders meetings • Briefings for institutional investors/analysts • 1 on 1 meeting with investors • Briefings for individual investors • Facility tours • Publishing TechnoAmenity Report (integrated report), Reports to Shareholders, etc. • Providing information through our corporate website and other avenues

Responsible Care Initiatives

All companies in the chemical industry responsible for handling chemical substances voluntarily agree to protect the environment, safety and health in all processes ranging from the development of chemical substances to their manufacture, transportation, use, end consumption, disposal and recycling. By disclosing the results of these activities to the public, the companies hold dialogue and communicate with society.

These efforts are known as Responsible Care (RC). The RC Global Charter was released in 2006 and revised in 2014 by the International Council of Chemical Associations (ICCA), which promotes Responsible Care worldwide.

Nippon Shokubai has participated in the Japan Responsible Care Council (currently known as the Japan Chemical Industry Association [JCIA]'s Responsible Care Committee) since it was established in 1995, and has been advancing various initiatives by introducing relevant systems, such as the environmental management system under ISO 14001, the quality management system under ISO 9001, and the occupational safety and health management system (OSHMS).

We are determined to continue contributing to society while fulfilling our corporate social responsibility through our group-wide commitment to Responsible Care.



President's signature on the RC Global Charter (Revised 2014 version)

[RC Initiatives](#)



[RC Basic Plan and Results](#)



Production/R&D Site Reports >

**Providing Support for Group
Companies** >

Initiatives of Group Companies >

RC Initiatives

We actively promote our RC initiatives in the priority areas of environmental protection, process safety and disaster prevention, occupational safety and health, chemical safety, quality and communication with society.

RC Policy

In conformity with the Nippon Shokubai Group Mission, Values, Safety Philosophy, and the Code of Conduct, we rank it as an important management measure to provide products and technologies that contribute to society and environmental protection. In addition, while paying due respect to the principle of Sustainable Development, we are determined to conduct all activities in accordance with the following policy related to environmental protection, safety, and quality that will bring our business operations into harmony with the global environment.

We will implement this RC Policy in all our business operations by ensuring all employees have a thorough understanding and awareness of its importance. The president shall be the person with the ultimate responsibility for implementing this policy.

1. Aim at environmental protection and reduction of negative environmental impact throughout the entire life cycle of a product, from development to disposal.
2. Ensure the safety of our employees and our communities by targeting zero accidents and zero injuries with a commitment to the Safety Philosophy, "Safety takes priority over production."
3. Confirm the safety of chemical materials, intermediates and products, and consider the health of our customers, employees of our logistics subcontractors, our employees, and others.
4. Stably supply products and associated services that meet customer satisfaction and inspire their trust.
5. Publicly announce the results of these activities and make an effort to communicate for proper understanding.

RC Promotion Organization

The president is chairman of the RC Promotion Committee, which covers all of the following activities: environmental protection, process safety and disaster prevention, occupational safety and health, chemical safety, quality management, and communication with society. The Committee discusses general and basic matters to tangibly promote each of the guidelines set forth in the RC

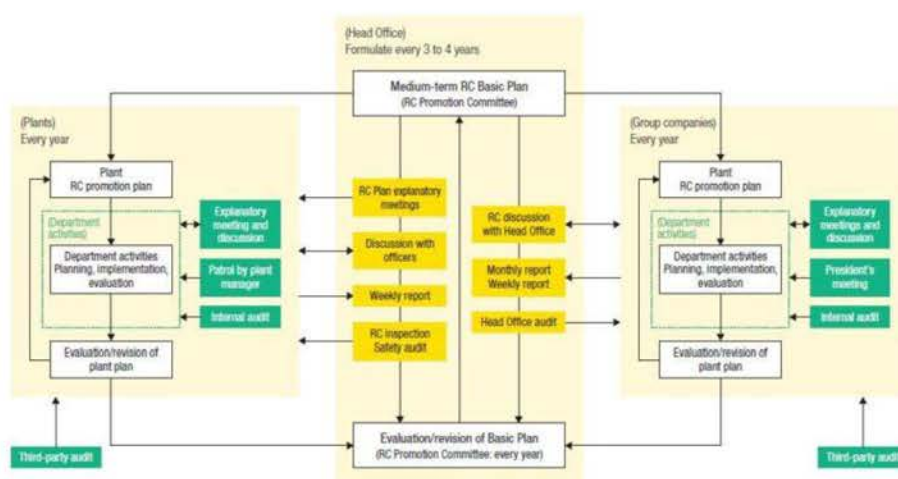
Policy and separately prescribed company regulations. Under the RC Promotion Committee, specialized subcommittees are established, to promote companywide RC activities.



Cycle of RC Initiatives Promotion

To implement the RC Policy, the Nippon Shokubai Group promotes RC initiatives by following the PDCA cycle below each year, thereby contributing to society and fulfilling its corporate social responsibility.

Steps to promote RC initiatives



Steps in RC Initiatives Promotion

[Head Office]

The RC Promotion Committee, chaired by the President, formulates the Medium-term RC Basic Plan every three to four years in line with the period of the medium-term management plan. RC inspections and safety audits are conducted every year based on the themes for inspections determined each year in order to check and evaluate the status of implementation of activities at each plant, and revise the plan if necessary.

[Plants]

Each year, the RC committee of each plant chaired by the plant manager formulates its new plant RC promotion plan based on the company-wide Medium-term RC Basic Plan and the evaluation results of its plant RC promotion plan of the previous year. Based on this plan and in view of the issues specific to the department, each department formulates the department activities plan as its specific action plan.

The progress of the activities is checked through patrol by the plant manager, department

discussion, and internal audits under ISO and various other management systems, as well as through discussion with the Head Office officers, RC inspections, and third-party audits. Based on the results of these checks, the department activities plan is revised as necessary. Thus, following this PDCA cycle, the plant works to continuously improve its initiatives.

[Group companies]

Similar to the case of plants, Group companies plan their activities each year based on the Medium-term RC Basic Plan. Each company formulates its own plant RC promotion plan taking into account its activities and local laws and regulations.

The progress of the activities is shared with the Head Office by means of a weekly report, and other periodic reporting and online meetings, and checked through regular discussion and audits by the Head Office. Based on the results of these checks, Group companies revise their activities as necessary. By following this PDCA cycle, Group companies work to continuously improve their initiatives.

Moreover, the Head Office encourages exchanges among Group companies, thereby mutually improving the level of their RC activities.

Definitions

PDCA cycle (Plan-do-check-act cycle)

An approach for continuous process improvement in the quality management in production. It is designed to continuously improve business processes by iteratively repeating four steps: Plan, Do, Check, and Act.

RC Inspection

Nippon Shokubai conducts RC inspections every year to ensure continuous improvement of RC initiatives at Himeji and Kawasaki Plants by organizing the RC Inspection Committee chaired by the Member of the Board in charge of production and technology, which consists mainly of officers. A written report indicating the problems found, proposals for improvement and other matters is issued for the both Plants, with the aim of ensuring continuous improvement of their RC initiatives.

RC Inspection

Nippon Shokubai has conducted RC inspections for 47 years since they started in February 1974 (initially named “safety inspections”), to implement our Safety Philosophy “Safety takes priority over production,” which was established in 1973.

The RC inspection, which was renamed in fiscal 2003 (previously known as a safety inspection), is currently conducted on the progress of each RC initiative at the plants and their priority theme set for each fiscal year. The priority themes of recent years are as shown below.

Medium-term Plan*	Fiscal year	Priority theme
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9th FY2014 to FY2016	FY2014 (42nd)	Progress in measures to prevent recurrence
	FY2015 (43rd)	Measures to prevent recurrence and development of a safety culture
	FY2016 (44th)	Summary of measures to prevent recurrence
10th FY2017 to FY2020	FY2017 (45th)	Initiatives for environmental protection
	FY2018 (46th)	Prevention of quality issues and ensuring quality governance
	FY2019 (47th)	Prevention of recurrence of similar industrial injuries
	FY2020 (48th)	Prevention of process safety accidents
FY2021	FY2021 (49th)	Chemical substance management

* The FY2021 plan is a single-year plan.

Fiscal 2021 RC inspection

The RC inspection for fiscal 2021 was conducted partly on site and partly online, in consideration of the spread of COVID-19, on October 22 at the Kawasaki Plant and on November 11 at the Himeji Plant, to check the progress of each of their RC initiatives and under the priority theme of “chemical substance management.”



RC inspection conducted partly on site and partly online

RC Inspection flow

The priority theme of the RC inspection for a fiscal year is determined between February and March of the previous fiscal year based on information on issues inside and outside the Company and the results of internal RC initiatives. Then the RC Inspection Committee conducts the inspection between October and November. The inspection results of both plants are reported to the RC Promotion Committee, which is chaired by the President, and reflected in activities of the next fiscal year.

The flow of an RC inspection is as shown below.



RC Training

We provide ongoing employee training in RC for the purpose of improving their knowledge, skill, and understanding of overall RC initiatives.

In keeping with our training curriculum for fiscal 2021, we have been providing this training to new employees entering our company, to employees being promoted to the position of subsection chief and to employees being promoted to managerial positions. We will continue improving our RC training capabilities in the future.



Training for new employees

RC Basic Plan and Results

RC Basic Plan for Fiscal 2021 and Its Results

The Medium-term Business Plan (TechnoAmenity for the future-I) was put into action in April 2022, and we have decided to formulate the 11th Medium-term RC Basic Plan in time with that. Therefore, the RC Basic Plan for fiscal 2021 is a single-year plan formulated as an extension of the 10th Medium-term RC Basic Plan.

The RC Basic Plan for fiscal 2021 was formulated by reflecting the following in each item of the RC initiatives: initiatives continued from the 10th Plan, corrective actions taken against the issues encountered, and requests from both inside and outside the company. Although we have steadily promoted the initiatives in each RC field to “attain more trust from customers,” many of the targets have not been reached.

RC Basic Plan for Fiscal 2021 and Its Results

Evaluation  Achieved  Almost achieved  Not achieved



Environmental Protection



Objectives for Fiscal 2021

- To reduce energy consumption by an amount equivalent to 2,000 kL of crude oil at the Himeji and Kawasaki Plants and 67.5 kL at Saita Research Center
- To reduce energy consumption intensity by 6% from fiscal 2015 levels (1% reduction annually to 102.1 L/t-production)
- To reduce CO₂ intensity by 6% from fiscal 2015 levels (energy source, 1% reduction annually to 0.206 t-CO₂/t-production)
- To reduce fuel consumption intensity for road transportation by 6% from fiscal 2015 levels (1% reduction annually to 33.1 L/1,000 t-km)
- To promote modal shift
- To maintain zero emissions¹
(Quantity of final off-site landfill) ≤ (Total amount of waste generated × 0.1%)
- To reduce emissions of substances subject to the PRTR Law by 25% from fiscal 2015 levels (§1 t/y)

Results for Fiscal 2021

- Energy consumption reduced by 6,058 kL at the Himeji and Kawasaki Plants and 127 kL at Saita Research Center
- Energy consumption intensity: 10.2% reduction • CO₂ intensity: 16.9% reduction
- Fuel consumption intensity for road transportation: 1.7% reduction
- Modal shift promotion continues • Zero emissions maintained
- Emissions of substances subject to the PRTR Law: 20.0% reduction

Priority Initiatives

- 1) Promoted energy conservation initiatives and advanced technical reviews to reduce waste and the release of PRTR-controlled chemical substances.
- 2) Continued examining the utilization of renewable energy.
- 3) Evaluated contributions to CO₂ emissions reduction related to our products through cLCA.²
- 4) Conducted inspections of equipment that uses fluorocarbons as planned.



Process Safety and Disaster Prevention



Objectives for Fiscal 2021

- To achieve zero accidents of Class A³ and Class B⁴ (zero severe process safety accidents)

Results for Fiscal 2021

- Class A process safety accidents: 0 • Class B process safety accidents: 0

Priority Initiatives

- 1) Implemented systematic risk assessments and other initiatives to prevent accidents and malfunctions.
- 2) Systematically implemented measures against deterioration and for earthquake response, for example.
- 3) Continuously improved our process safety management system.
- 4) Systematically implemented and sought to enhance external education and workplace education and training.
- 5) Sought to strengthen a safety first mindset through efforts that included Safe Operation Month activities and safe behavior checks.



Occupational Safety and Health



Objectives for Fiscal 2021

- Zero injuries with loss of workdays⁵ • Zero injuries without loss of workdays⁶ (including contractors)

Results for Fiscal 2021

- Five injuries with loss of workdays • Eight injuries without loss of workdays

Priority Initiatives

- 1) Advanced basic safety activities and undertook other efforts to prevent injuries.
- 2) Implemented systematic safety measures by, for example, steadily undertaking the organization-wide introduction of industrial injury examples.
- 3) Checked the status of every safety activity and sought to continuously improve them.
- 4) Systematically implemented workplace safety education and sought to enhance workplace education and training.
- 5) Sought to strengthen a safety first mindset through efforts that included safe behavior checks.
- 6) Supported the safety initiatives of our contractors through safety education and patrols, for example.

Definitions

- ¹ Zero emissions: Reducing the quantity of waste subject to final disposal at off-site landfills to 0.1% or less of the total amount of waste generated
- ² cLCA (carbon Life Cycle Analysis): A method of assessing greenhouse gas emissions throughout the life cycle of a finished product incorporating chemical products and a comparison product containing no such chemical products when used by consumers and in other industries. The evaluation method calculates a chemical product's net contribution to GHG emissions reduction by determining the increased emissions when no such chemical product is used
- ³ Class A: Level 6 or higher according to the Nippon Shokubai method on the Japan Petrochemical Industry Association chart
- ⁴ Class B: Level 3 to 5 according to the Nippon Shokubai method on the Japan Petrochemical Industry Association chart
- ⁵ Injury with loss of workdays: Injury requiring at least one lost workday for medical treatment
- ⁶ Injury without loss of workdays: Injury requiring no loss of workdays for medical treatment
- ⁷ Refers to Group companies inside and outside Japan, unless otherwise specified



Chemical Safety



Objectives for Fiscal 2021

- To achieve zero problems related to chemical safety (legal or social problems)

Results for Fiscal 2021

- Zero problems related to chemical safety

Priority Initiatives

- 1) Gathered information about the hazardous properties and the legal requirements for chemical substances. In addition to making this information known within the company, also appropriately provided information to customers, including through SDS.
- 2) Implemented functional improvements to our chemical substance management system and ensured information granularity based on our plans.
- 3) Properly provided various reports and submitted information within specified time periods in accordance with the legal obligations of Japanese and foreign laws and regulations as well as other requests from authorities.



Quality



Objectives for Fiscal 2021

- To promote customer satisfaction • To attain more trust from customers
- To achieve zero serious quality complaints

Results for Fiscal 2021

- To promote customer satisfaction: Almost achieved.
- To attain more trust from customers: Achieved.
- No serious quality complaints

Priority Initiatives

- 1) Promoted efforts to prevent quality issues.
- 2) Implemented product safety assessment, product entrustment assessment and screening by the gate system for fine and specialty chemicals and new businesses.
- 3) Strengthened support for the quality assurance initiatives of Group companies.⁷
- 4) Implemented quality audits at both our plants and Group companies.
- 5) Continuously implemented quality education and quality awareness-raising activities.



Communication with Society



Objectives for Fiscal 2021

- To maintain dialogue with stakeholders and implement information disclosure

Results for Fiscal 2021

- Participated in dialogue with local communities
- Published TechnoAmenity Report and RC Report



Developing RC among Our Group Companies (Measures Common to Our Group Companies)



Objectives for Fiscal 2021

- 1) Environmental Protection:
 - To reduce energy intensity
 - To reduce final disposal at off-site landfills (Group companies in Japan)
 - To reduce the amount of waste (Group companies outside Japan)
 - To reduce emissions of substances subject to the PRTR Law
- 2) Process Safety and Disaster Prevention:
 - To achieve zero disasters and zero accidents (equivalent to Class A and Class B severe process safety accidents on the Nippon Shokubai scale)
- 3) Occupational Safety and Health: To achieve zero injuries with loss of workdays
- 4) Chemical Safety: To achieve zero problems related to chemical safety (legal or social problems)
- 5) Quality: To achieve zero serious quality complaints
- 6) Communication with Society:
 - To maintain a dialogue with stakeholders and implement reasonable information disclosure

Results for Fiscal 2021

- Seven of the 12 Group companies reduced their energy intensity year-on-year.
- Waste subject to final disposal at off-site landfills increased by 8.9% compared to the level of the previous fiscal year.
- The amount of waste generated increased by 0.2% compared to the level of the previous fiscal year.
- Emissions of substances subject to the PRTR Law increased by 1.4% compared to the level of the previous fiscal year.
- Zero facility disasters • Zero facility accidents • One injury with loss of workdays
- Zero problems related to chemical safety • No serious quality complaints
- Published an Environmental Report and participated in community events

Priority Initiatives

- Conducted RC discussions and audits, and sought to improve the RC level of the entire Group.

PDF Download



The 11th (Fiscal 2022–2024) Medium-term RC Basic Plan

We have formulated the 11th Medium-term RC Basic Plan as a three-year plan for April 1, 2022 to March 31, 2025 in time with the period of the Medium-term Business Plan (TechnoAmenity for the future-I). We have set objectives and priority initiatives for the 11th Medium-term RC Basic Plan by extracting initiatives that should be continuously conducted from the 10th Medium-term RC Basic Plan and the RC Basic Plan for fiscal 2021; examining the results of analyzing the issues encountered; and responding to external needs, including law amendments made in response to technological progress and for other purposes.

By steadily implementing the 11th Medium-term RC Basic Plan and continuously making improvements, we will continue our safe and stable production activities and move toward the Goals for 2030, which are set in our long-term vision “TechnoAmenity for the future.”

Furthermore, regarding the setting of numeric objectives (KPIs, or Key Performance Indicators), which we started in the 10th Medium-term RC Basic Plan, we will continue to set them to regularly evaluate the progress and direction of our daily activities.

The 11th (Fiscal 2022–2024) Medium-term RC Basic Plan



Environmental Protection

Objectives for Fiscal 2022–2024

- To reduce energy consumption by an amount equivalent to 6,000 kL of crude oil (over three years)
- To reduce energy consumption intensity by 5% from fiscal 2019 levels (1% reduction annually to 96.9 L/t-production)
- To reduce CO₂¹ emissions for fiscal 2030 by at least 30% from fiscal 2014 levels (including Group companies in Japan)
- To reduce fuel consumption intensity for road transport by 4% from fiscal 2020 levels (1% reduction annually to 33.7 L/1,000 t-km)
- To promote modal shift
- To reduce water use intensity to at least fiscal 2020 levels (to 8.45 m³/t-production)
- To maintain zero emissions²
(Quantity of waste subject to final disposal at off-site landfills) ≤ (Total amount of waste generated × 0.1%)
- To reduce emissions of substances subject to the PRTR Law by 25% from fiscal 2015 levels (81 t/y)³

Priority Initiatives

- 1) To promote energy conservation initiatives and advanced technical reviews to reduce waste and the release of PRTR Law-controlled chemical substances
- 2) To promote CO₂ emissions reduction toward the achievement of carbon neutrality
- 3) To build a system that totals up product-specific CO₂ emissions
- 4) To ensure appropriate management of equipment that uses fluorocarbons and strive to control fluorocarbon emissions
- 5) To promote certification of Environmental Contribution Products, including those manufactured by Group companies



Process Safety and Disaster Prevention

Objectives for Fiscal 2022–2024

- To have zero Class A⁴ and Class B⁵ process safety accidents (zero severe process safety accidents)

Priority Initiatives

- 1) To cultivate a culture of safety prioritization
- 2) To implement initiatives to prevent issues
- 3) To take systematic safety measures
- 4) To maintain and improve systems
- 5) To enhance education and training



Occupational Safety and Health

Objectives for Fiscal 2022–2024

- Zero injuries with loss of workdays⁶
- Zero injuries without loss of workdays⁷ (zero at contractors, too)

Priority Initiatives

- 1) To implement initiatives to prevent issues
- 2) To take systematic safety measures
- 3) To maintain and improve systems
- 4) To enhance education and training
- 5) To give more support to the safety initiatives of our contractors

Definitions

- ¹ The emissions reduction objective is in fact for GHG, but most GHG is actually carbon dioxide (CO₂). Therefore, this objective mentions "CO₂" instead.
- ² Zero emissions: Reducing the quantity of waste subject to final disposal at off-site landfills to 0.1% or less of the total amount of waste generated.
- ³ Due to amendment of the PRTR Law, this objective is scheduled to be reviewed within the period of the 11th Medium-term RC Basic Plan.
- ⁴ Class A: Level 9 or higher according to the Nippon Shokubai method on the Japan Petrochemical Industry Association chart.
- ⁵ Class B: Level 2 to 8 according to the Nippon Shokubai method on the Japan Petrochemical Industry Association chart.
- ⁶ Injury with loss of workdays: Injury requiring at least one lost workday for medical treatment
- ⁷ Injury without loss of workdays: Injury requiring no loss of workdays for medical treatment



Chemical Safety

Objectives for Fiscal 2022–2024

- To have zero problems (legal or social) related to chemical safety

Priority Initiatives

- 1) To effectively make information on the safety of chemical materials and related laws and regulations known and familiar throughout the company
- 2) To ensure dissemination of information on product safety and applicable laws and regulations to stakeholders
- 3) To maintain legal compliance and adequately respond to new laws and regulations of Japan and other nations
- 4) To promote systematization of chemical material management tasks



Quality

Objectives for Fiscal 2022–2024

- To receive zero serious quality complaints
- To improve customer satisfaction by strictly complying with quality-related laws and promoting priority initiatives regarding quality

Priority Initiatives

- 1) To effectively use quality management systems and continuously improve them
- 2) To prevent quality complaints and issues by promoting initiatives to prevent them
- 3) To continuously implement quality education and awareness-raising activities to cultivate a quality-first mindset



Communication with Society

Objectives for Fiscal 2022–2024

- To maintain dialogue with stakeholders and implement reasonable information disclosure



Developing RC among Our Group Companies (Measures Common to Our Group Companies)

Objectives for Fiscal 2022–2024

- 1) Environmental Protection:
 - To reduce energy intensity
 - To set a CO₂ emissions reduction objective (Group companies outside Japan)
 - To reduce the quantity of waste subject to final disposal in off-site landfills (Group companies inside Japan)
 - To reduce the total amount of waste generated (Group companies outside Japan)
 - To reduce emissions of substances subject to the PRTR Law (Group companies inside Japan)
- 2) Process Safety and Disaster Prevention: To have zero injuries and zero accidents (equivalent to Class A and Class B process safety accidents on the Nippon Shokubai scale)
- 3) Occupational Safety and Health: To have zero injuries with loss of workdays
- 4) Quality: To have zero problems (legal or social) related to chemical safety
- 5) Chemical Safety: To receive zero serious quality complaints
- 6) Communication with Society: To maintain dialogue with stakeholders and implement reasonable information disclosure

Priority Initiatives

- To strengthen support to improve the RC level of the entire Group

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Production/R&D Site Reports

Himeji Plant



Kawasaki Plant



Suita Research Center



Himeji Plant

Plant Manager	Tokihiro Yokoi, Executive Officer
Location	992-1 Aza-Nishioki, Okinohama, Aboshi-ku, Himeji, Hyogo
Number of employees	1,241 (including research center)
Products	Acrylic acid, acrylates, maleic anhydride, superabsorbent polymers, resin modifiers, electronic information materials, De-NOx catalysts, dioxins decomposition catalysts, and other products
Contact	TEL+81-79-273-1131 FAX+81-79-274-3723

Fiscal 2021 Results of RC Activities

Occupational Safety and Health Initiatives	Three injuries with loss of workdays, five injuries without loss of workdays (including contractors)
Process Safety and Disaster Prevention	Zero Class A and Class B process safety accidents
Environmental protection	Energy consumption intensity: reduced by 11% from the FY2020 level

For occupational safety and health, the Himeji Plant has always strived to establish the practice of basic safety behavior (thinking before action, pointing and calling, and holding the handrail when walking up or down stairs). Aiming to further ingrain the behavior, the plant has been taking an ergonomic approach lately.

Regarding process safety and disaster prevention, a Hyogo Prefecture petrochemical complex comprehensive emergency drill took place at the Himeji Plant, assuming it to be the accident site. Due to the spread of COVID-19, this was conducted as a virtual drill, but it afforded an opportunity to confirm cooperation with the fire department, the Japan Coast Guard, and companies in the neighborhood. For environmental protection, full-scale introduction of a plant-wide activity to recycle plastic pallets, which used to be disposed of as waste, into regenerated pallets considerably reduced the amount of pallet waste.

The Himeji Plant is striving to constantly provide maximum value for customers under its policy, "Let us make a plant with high safety and productivity by enhancing the resilience of each member of the plant, and making constant ambitious efforts to implement three transformations (business transformation, strategic transformation for environment initiatives and organizational transformation)!"



Tokihiro Yokoi, Plant Manager

Hands-on safety experience in pointing and calling

Many human errors are caused by careless mistakes and preconceptions due to lack of confirmation. Using a newly introduced “pointing and calling safety check simulator,” the Himeji Plant provides workers with an opportunity to experience simulated human errors caused by a lack of confirmation and understand through their own experience the importance of pointing and calling before action.

You simply press buttons as directed on the screen. That is very easy, but you can realize that you would make more mistakes without the pointing and calling practice. We believe that we can make a troubleless, injuryfree, safe and stable plant where our employees can work with ease of mind if they stick to the basic safety behavior and make action for self-protection a habit. We will continue to promote safety education and training, aiming to raise the safety awareness of all workers and contractor employees, from young to experienced.

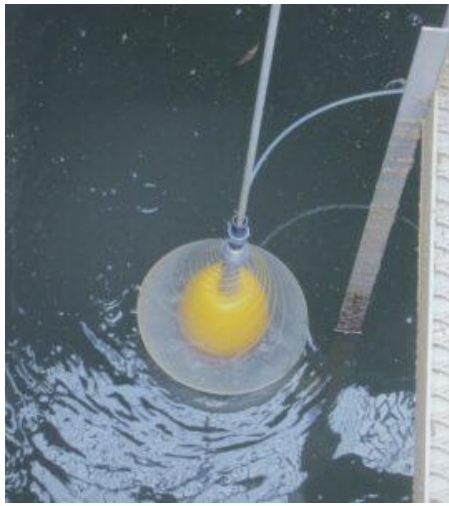


Hands-on experience

Introduction of an organic pollution monitor (drainage monitoring system)

To strengthen monitoring of the drainage path at the plant site, the Himeji Plant has attached an organic pollution monitor to a drainage-oil separator.

This organic pollution monitor applies the mechanism of a gas detector. It vaporizes any trace of organic substances in drainage and detects the generated vapor in real time. Before the installation of the monitor, its effectiveness was confirmed with an on-site test conducted with a demo unit. The reinforced monitoring system has made it possible to react more quickly than before in the event of a leak of a hazardous material. We will continue to strive for environmental protection by promoting activities to prepare for emergencies.



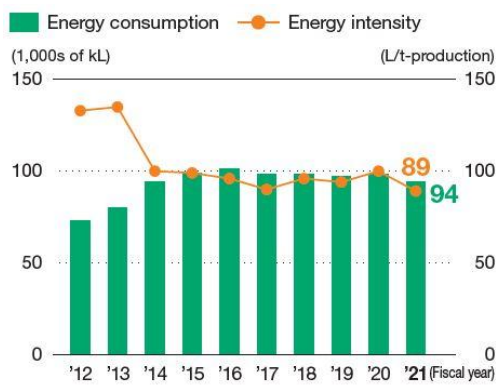
Sampling float



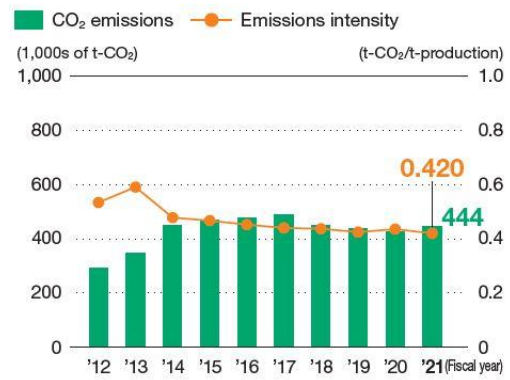
Main unit (with a sensor)

Plant Data

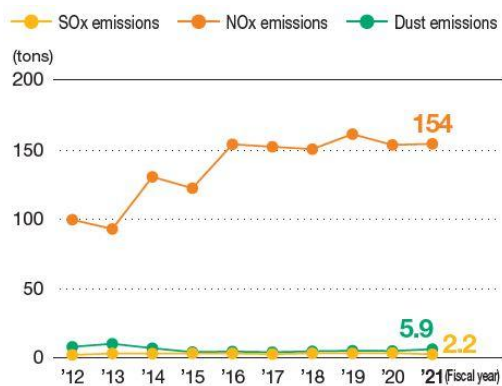
Trends in Energy Consumption and Intensity



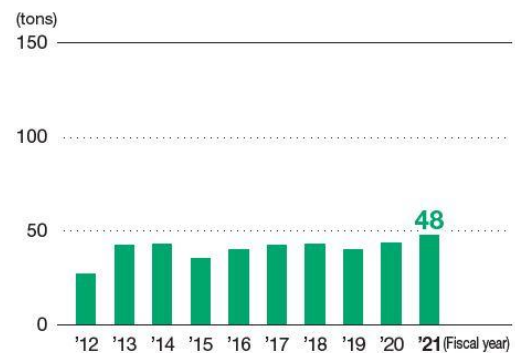
Trends in CO₂ Emissions and Intensity



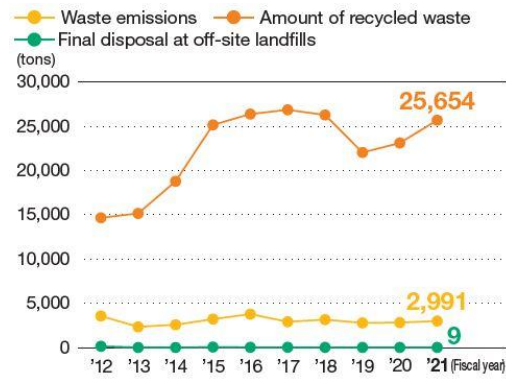
Trends in Emissions of SO_x, NO_x, and Dust



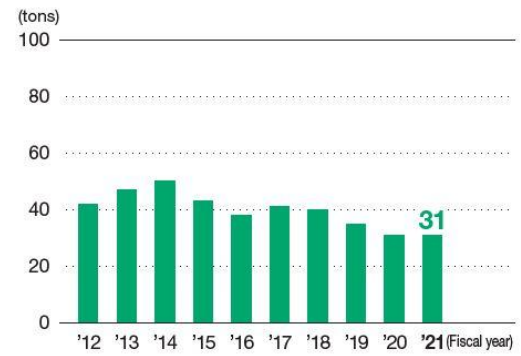
Trend in COD of Wastewater



Trends in Amount of Waste, Recycled Waste, and Waste for Final Off-site Landfill Disposal



Trends in Emissions of Substances Subject to the PRTR Law



[Production/R&D Site Reports TOP →](#)

Kawasaki Plant

Plant Manager	Yoshihisa Oka, Executive Officer
Location	Chidori Plant 14-1 Chidori-cho, Kawasaki-ku, Kawasaki, Kanagawa Ukishima Plant 10-12 Ukishima-cho, Kawasaki-ku, Kawasaki, Kanagawa
Number of employees	367
Products	Ethylene oxide, ethylene glycol, ethanolamine, secondary alcohol ethoxylates, polymers for concrete admixture, acrylic acid special ester, and other products
Contact	TEL+81-44-288-7366 FAX+81-44-288-8492

Fiscal 2021 Results of RC Activities

Occupational Safety and Health Initiatives	One injury with loss of workdays, two injuries without loss of workdays (including contractors)
Process Safety and Disaster Prevention	Zero Class A and Class B process safety accidents
Environmental protection	Energy consumption intensity: reduced by 8% from the FY2020 level

Regarding occupational safety and health, the Kawasaki Plant had one injury with loss of workdays (fracture) and two injuries without loss of workdays (chemical burns and cut wounds). To thoroughly prevent similar issues, we reviewed the work environment and delivered re-education in work procedures. For process safety and disaster prevention, we ensured safety management. As a result, the Chidori Plant achieved continuous operation of its ethylene oxide manufacturing facility for 619 days (two years) and maintained the accreditation of Safety Inspection and Completion Inspection Executors for high-pressure gas granted by the Ministry of Economy, Trade and Industry. For environmental protection, we took energy conservation measures, including steam reduction through equipment modification. Regarding substances subject to the PRTR Law, its amendment will add more substances to the list of those subject to the law, and we promoted the identification of sources of emissions of such additional substances, while continuing to strive for the recovery of boron. We will continue to promote RC activities to ensure safety and even higher reliability.



Yoshihisa Oka, Plant Manager

Utilization of an operator training simulator

At the Kawasaki Plant, we have introduced an operator training simulator and utilized it to educate and train young operators who will take a lead in plant operation in the future. This simulator aims at the acquisition of plant operation skills. Targeted at ethylene oxide manufacturing equipment, which is the main plant in the Kawasaki Plant, the simulator provides training in non-routine starting and stopping of the equipment, condition alterations during steady operation, and operation in the event of an emergency. A trainee's superior serves as the instructor to give one-on-one training and evaluates training results to make sure that every trainee can acquire operation skills. Since a single erroneous operation may lead to a serious accident, workers attend the training with a sense of tension, believing that they cannot do better in the manufacturing setting than in training.



Training

Replacement of absorption columns in the ethylene oxide manufacturing facility

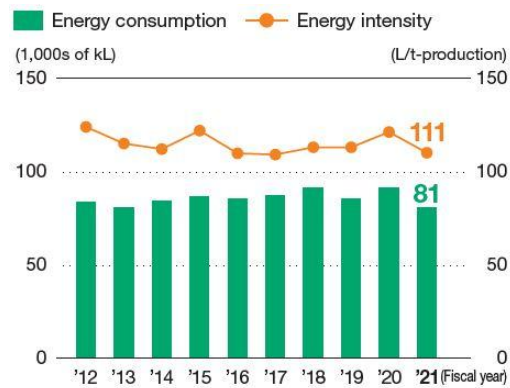
The manufacturing process of ethylene oxide, a flagship product of the Kawasaki Plant, requires continuous operation, and its manufacturing facility consists of many dedicated pieces of equipment. One such piece of equipment is columns that absorb the gas generated. Old-model columns, which had been used for almost 50 years, were removed, and regular packed columns, which were expected to increase the absorption capacity, were installed. This large-scale construction was intended to maintain stable operation by replacing the aged equipment and reduce the energy load due to a smaller amount of absorbing solution. Combined with regular maintenance, the construction took a long time, but it was completed without process safety accidents because of safety measurements taken, including risk identification through management of change as well as thorough prearrangements.



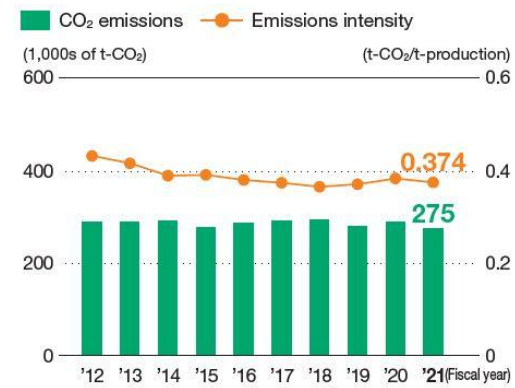
Absorption columns replacement at the Chidori Plant

Plant Data

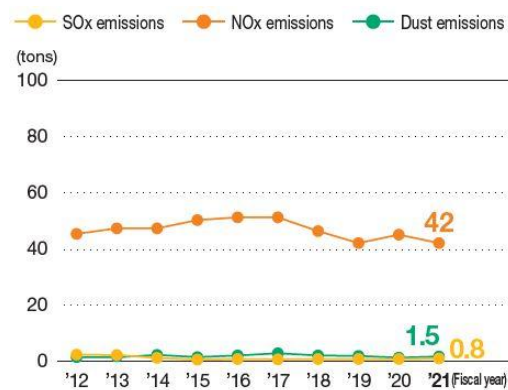
Trends in Energy Consumption and Intensity



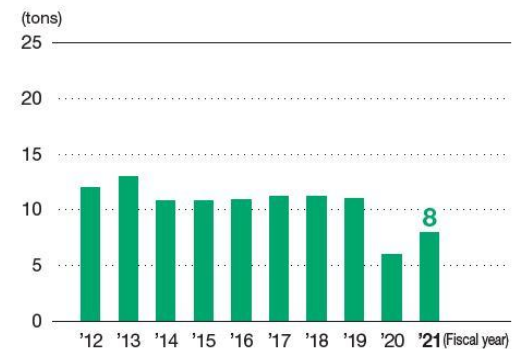
Trends in CO₂ Emissions and Intensity



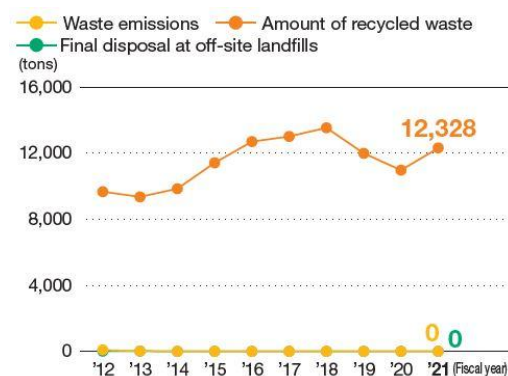
Trends in Emissions of SO_x, NO_x, and Dust



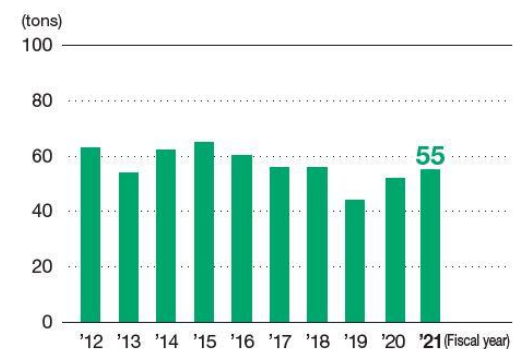
Trend in COD of Wastewater



Trends in Amount of Waste, Recycled Waste, and Waste for Final Off-site Landfill Disposal



Trend in Emissions of Substances Subject to the PRTR Law



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Suita Research Center

Representative	Yasutaka Sumida, Director of Innovation & Business Development Division, Member of the Board, Managing Executive Officer
Location	5-8 Nishi Otabi-cho, Suita, Osaka
Number of employees	411
R&D organizations	Innovation & Business Development Division, Industrial & Household Chemicals Research Department, New Energy Materials Research Department, Electronics & Imaging Materials Research Department, Process Technology Center, Malonates Business Development Office, Health & Medical Business Division, Cosmetics Materials Research Group, IONEL Construction Team, R&D Management Department, General Affairs Suita Department, Responsible Care Suita Department
Contact	TEL+81-6-6317-2202 FAX+81-6-6317-1578

Fiscal 2021 Results of RC Activities

Occupational Safety and Health Initiatives	One injury with loss of workdays, one injury without loss of workdays*
Process Safety and Disaster Prevention	Zero Class A and Class B process safety accidents
Environmental protection	Recycling 100% of waste

* Total number for Suita Research Center and Himeji Research Center

Regarding occupational safety and health, we had one injury with loss of workdays and one injury without loss of workdays. Both of the injuries seemed partly attributable to lack of risk prediction, and we have been striving to prevent similar injuries through continued and enhanced safety activities.

For process safety and disaster prevention, training in risk management in process development was given by an external organization, and various emergency drills were conducted with their programs rearranged in consideration of the prevention of COVID-19 infection.

Regarding environmental protection, we continued to achieve 100% recycling of waste in fiscal 2021. We set up a committee for promotion of energy conservation in fiscal 2020, and we have been striving for even more efficient energy management.

Aiming at safe research activities with no injuries, we will continue to promote RC activities in good balance with the promotion of research.



Yasutaka Sumida, Director of Innovation & Business Development Division

Commitment to education

Continued from 2020, RC education in the research and development segments was conducted partly in person with thorough measures taken against the spread of COVID-19 infection and partly online with a conferencing tool, although one of the planned education programs was forced to be postponed.

In fiscal 2021, an environmental education program was newly added. Moreover, efforts were made to promote the trainees' understanding, including the implementation of a comprehension test after each program and the adoption of a two-part program structure, which consists of a classroom lecture on applicable laws and regulations and instruction in practical tasks. The introduction of the comprehension tests generally received favorable comments from the trainees, some of whom mentioned that the tests helped them grasp key points of the education. We will strive for the optimization of program contents and the style of education provision, so that we can respond to trainees' needs and changes of the circumstances that surround chemicals, including increasingly stringent laws and regulations.



Education

Disaster prevention and energy conservation activities

The Suita Research Center operates two nitrogen generators, including a backup. Nitrogen supplied by them has a role in preventing chemicals from causing fire, in addition to being used in various experiments. To prepare for power failures and other unexpected situations, the center has newly introduced nitrogen cylinder bundles. Recently, addressing energy issues has become an important part of the SDGs. The cylinder bundles ensure a supply of nitrogen in the event of a shutdown of the operating nitrogen generator, which has allowed the center to turn off the backup nitrogen generator at night, when nitrogen usage is low. In this way, the cylinder bundles contribute to energy conservation while preventing accidents.



Cylinder bundles

Providing Support for Group Companies

In the interests of strengthening group management, we are providing active support for the RC initiatives of our Group companies.

Support for Environment and Safety Activities

RC discussions

The RC Division holds RC discussions to promote and improve RC initiatives for Group companies both inside and outside Japan. In fiscal 2021, because the RC Division could not visit the Group companies due to the COVID-19 pandemic as in the previous year, discussions were held online with six Group companies in Japan and one Group company outside Japan.

In these discussions, the companies in Japan reported on the planning and achievements of their RC initiatives. And the company outside Japan reported on the planning and achievements of its RC initiatives, as well as the status of operation of its management systems.

We provided them with advice and support.



RC discussion with Nippon Polymer Industries Co., Ltd.



RC discussion with Sino-Japan Chemical Co., Ltd.

Environmental and safety audits

We conduct environmental and safety audits at our Group companies in Japan every year to strengthen our environmental safety management structure and promote continuous system improvements.

In fiscal 2021, the audits were conducted online, as in the previous year. We were able to confirm compliance with legal requirements as well as the status of the establishment and operation of necessary standards related to safety and the environment. We also confirmed that their environment and safety management systems are properly implemented.



Environmental and safety audit of the Kashima Plant of Nippon Nyukazai Co., Ltd.



Environmental and safety audit of Chugoku Kako Co., Ltd.

Environment and safety exchange meeting

Every year, environment and safety personnel of our Group companies inside Japan gather at one of the companies to hold an environment and safety exchange meeting. At the meeting, the company that serves as the venue introduces its RC initiatives, and the participants share information with each other to improve the level of their initiatives.

In fiscal 2021, the meeting was held online due to the spread of COVID-19, but the participating companies shared their basic safety activities (a hiyari hatto (near miss) campaign and task risk assessment), basic safety behavior (thinking before you act, pointing and calling, and holding the handrail when stepping on stairs), and problems, and exchanged views.

Support for Quality Activities

Support for quality assurance initiatives

For Group companies inside Japan, in fiscal 2021, we continued to provide advice and support on their quality activities and quality issues through quality roundtable meetings.

For SAP manufacturing sites of Group companies outside Japan, to ensure high quality at the same level at our all sites for our core businesses, we have a quality meeting every year with the members in charge of quality of each site.

In fiscal 2021, the meeting was held online in two separate groups in consideration of the time difference, as in the previous year. As usual, we also held a periodic meeting with each site, including Sino-Japan Chemical Co., Ltd.

We continue to provide even closer support to the Group companies, including the enhancement of the quality-related database for work sites outside Japan.



Quality meeting at Nisshoku Chemical Industry (Zhangjiagang) Co., Ltd. (in 2018)

Quality audits

Quality audits for the Group companies inside Japan for fiscal 2021 were conducted online, as in the previous year, focusing on products that had caused issues in the past. Through a Lot traceability exercise, the auditors checked how countermeasures against the recurrence of the issues had been taken on an ongoing basis. Opportunities for improvement found in the audits were shared within the Group companies to raise the level of their initiatives.

For Group companies outside Japan, too, internal audits of SAP manufacturing sites were conducted online in fiscal 2021. Quality personnel of these companies were asked to take photos of the manufacturing sites in advance, and the photos were used to inspect the sites. For manufacturing sites of products other than SAPs, quality audits are conducted every other year, and they were conducted in fiscal 2021, focusing on a Lot traceability exercise, as with quality audits for the Group companies inside Japan. None of the manufacturing sites revealed serious non-conformance.



Quality audit of Nisshoku Techno Fine Chemical Co., Ltd.

Quality exchange meeting

Every year, quality personnel from us and the Group companies inside Japan hold a quality exchange meeting, taking turns to lead it. In fiscal 2021, due to the spread of COVID-19, the meeting was conducted online on the theme of management of change and customer notification. Lately, unavailability of materials and raw materials sometimes forces abrupt changes in schedule. The participants exchanged views and ideas about how their companies coped with the situation.

Initiatives of Group Companies

[Group Companies in Japan](#)



[Group Companies outside Japan](#)



Group Companies in Japan

CHUGOKU KAKO CO., LTD.

Principal business

Manufacture and sale of adhesive-processed products and fine sphere particles

In fiscal 2021, for environmental protection, Chugoku Kako replaced aged boilers. Along with the replacement, the fuel was changed from bunker A to city gas, and this upgrade to high-efficiency boilers reduced CO₂ emissions by 30% and electricity usage by 50%.

Regarding occupational safety, the Production Department had three injuries without loss of workdays. These comprised pinch injuries, injuries from being caught in machinery, cuts, and scratches, which are major types of injuries that occur at the factory. We will steadily take countermeasures against the recurrence of these injuries, and apply these countermeasures to similar tasks and equipment while raising workers' safety awareness for injury prevention.

"Chugoku Kako Improvement ACTION," our improvement and proposal activity that started in 2020, entered its second year and is gradually getting results, including less workload and more information shared. We will continue to make constant improvements and promote RC initiatives.



High-efficiency boilers

Interview

Toward the continued achievement of zero injuries

Having had zero injuries since October 2015, my workplace set "zero injuries with or without loss of workdays" as the occupational safety target for the fiscal 2021 RC promotion plan, and worked to achieve it.

Last injuries that occurred in the workplace were mostly caused



by workers with a longer career history. I suspected that their familiarity with tasks and the work environment lowered their guard against hazards and decreased their awareness. Therefore, in addition to "KY" risk prediction and hiyari hatto (near miss) campaigns, which we have long conducted, we patrol around the section as a "5S" promotion activity to identify dangerous spots and share information on them, as well as check how clean each workspace is. Furthermore, workers in my section share information with each other about how they handle raw materials. Through this information sharing based on the SDSs of these raw materials, my section ensures thorough understanding and reacknowledgement of hazards. Through these activities, my workplace will continue to aim at realizing a safe and pleasant work environment.

Shoji Kawamura
Manager
Production No. 3 Section
Chugoku Kako Co., Ltd.

TOKYO FINE CHEMICAL CO., LTD.

Principal business

Manufacture and sale of disinfectants for industrial use, brine, antifouling agents, stabilizers of vinyl chloride resins, etc.

In fiscal 2021, Tokyo Fine Chemical worked on safety and health initiatives under Nippon Shokubai's Safety Philosophy "Safety takes priority over production," as it did in the previous fiscal year, but regrettably it had one injury without loss of workdays. The worker fell due to heatstroke and broke a bone. We will identify risk factors again and strive for zero injuries. Regarding the other elements of occupational safety and health, for prevention of group infection in the factory amid the ongoing spread of COVID-19, workers take their temperature every morning when entering the factory, and acrylic plates have been installed in each workplace for social distancing, thereby strengthening hygiene management.

As for process safety and disaster prevention, we focus on newemployee education, including repeated study of past accident cases, comprehensive fire drills, and drills assuming accidents on transportation routes. We will continue to make company-wide efforts in promoting RC initiatives, and strive for stable factory operations while preventing COVID-19 infection.



Comprehensive fire drill



Temperature check when arriving for work

NIPPOH CHEMICALS CO., LTD.

Principal business

Manufacture and sale of iodine, iodine compounds, raw materials for pharmaceuticals and pesticides and natural gas

In fiscal 2021, Nippon Chemicals strived to foster safety culture through RC initiatives with full participation, but regrettably it had an injury without loss of workdays, in which a worker's fingers were pinched by a stepladder. Although safety patrols have been eliminating unsafe spots, current activities have not sufficiently reduced unsafe behaviors. We are striving to ensure basic safety behavior by putting up awareness-building posters and conducting many other activities, in addition to "KY" risk prediction and hiyari hatto (near miss) campaigns and risk assessment. For process safety and disaster prevention, in fiscal 2021, in addition to an annual factory-wide emergency drill, we conducted a night-time emergency call drill for its emergency response team. The drill carried out an actual procedure, from night-time emergency calls to preparation for first response, which clarified various issues. This drill will be conducted on a regular basis to prepare for emergency.

Regarding logistics safety, for the prevention of falls from a tanker during cargo handling, we installed equipment to hang fall prevention gear. After developing a procedure for using the equipment, we started using it in April 2022.

In fiscal 2022, we will formulate a new (three-year) RC plan and strive to achieve the targets through RC initiatives with full participation.



Poster displaying all employees' safety and health declarations



Measure to prevent falls from vehicles

NIPPON POLYMER INDUSTRIES CO., LTD.

Principal business

Manufacture and sale of acrylic resins

In fiscal 2021, Nippon Polymer Industries conducted the following RC initiatives. For process safety and disaster prevention, we increased emergency supplies and equipment to control and respond to disaster, including the additional purchase of emergency radio sets to enhance information sharing and communication among self-defense disaster response team members and the purchase of portable generators and lithium-ion batteries to respond to disaster during night time and power failure.

For environmental protection, we settled a pending matter: a new dike was constructed in the No. 2

production tank yard, which stored nonhazardous materials. Moreover, tanks of caustic soda for cleaning were relocated to the yard, which raised leak and pollution control levels.

Regarding safety and health, regrettably, we had one injury without loss of workdays early in fiscal 2021. The injury was caused by exposure to acrylic acid, due to insufficient management of its container and lack of confirmation caused by carelessness stemming from familiarity with the daily task. Taking these issues seriously, we are making renewed efforts to prevent industrial injuries, including review of the risk assessment of similar tasks and thorough implementation of pointing and calling. Although the spread of COVID-19 has been limiting various activities, we will continue to work on RC initiatives with full participation whenever possible, aiming for zero accidents and zero injuries.



Joint emergency drill (self-defense disaster response station)



Tanks of caustic soda for cleaning and the dike

NIPPON NYUKAZAI CO., LTD.

Principal business	Manufacture and sale of surfactant and other chemicals
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In fiscal 2021, Nippon Nyukazai promoted RC initiatives based on a single-year plan formulated as an extension of the 4th Medium-term RC Promotion Plan (fiscal 2017–2020).

Regarding occupational safety and health, analysis of near miss incidents revealed that the most common cause was unawareness of the risk. In the next fiscal year, we will promote activities to improve sensitivity to risks.

For environmental protection, a working team created a theme for energy consumption reduction activities. From now on, the team will discuss how to act on the theme and make ideas more specific actions for energy consumption reduction, thereby promoting CO₂ emissions reduction.

For process safety and disaster prevention, we introduced a workflow system into management of change, visualizing progress and strengthening management. Also, enlightenment education was delivered using cases of accidents that occurred at our company or other companies.

Regarding communication with society, to enhance the quality of RC initiatives, we underwent third-party verification by the JCIA. We will apply the advice received through the verification to our activities.

We will continue to strive for safe operations and further promote the enhancement of our RC initiatives.



RC inspection of the plant by the management



Third-party verification report by the JCIA

NISSHOKU TECHNO FINE CHEMICAL CO., LTD.

Principal business	Manufacture and sale of (meth)acrylic acid derivatives and photo/electro chemicals
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Regrettably in fiscal 2021, Nisshoku Techno Fine Chemical had two injuries without loss of workdays, and it immediately took countermeasures against the recurrence of such injuries. To prevent industrial injuries, we will continue "KY" risk prediction and hiyari hatto (near miss) campaigns and proactively implement risk assessment of tasks, including infrequent ones. To work on environmental protection, we set the target of reducing the following compared to fiscal 2020 levels: waste intensity, emissions intensity of substances subject to the PRTR Law, and energy use intensity. The operation of new equipment reduced the energy use intensity. The medium-term plan includes conversion of fuel for once-through boilers from heavy oil to city gas, which will reduce environmental impact.

For process safety and disaster prevention, amid the spread of COVID-19, we conducted disciplinary and water discharge drills under the guidance of the Ichikawa Collaborative Disaster Control Center, as well as a comprehensive emergency drill.

In fiscal 2022, we will continue to conduct safety and disaster control activities while taking measures against COVID-19.



Disciplinary and water discharge drills under the guidance of the Ichikawa Collaborative Disaster Control Center

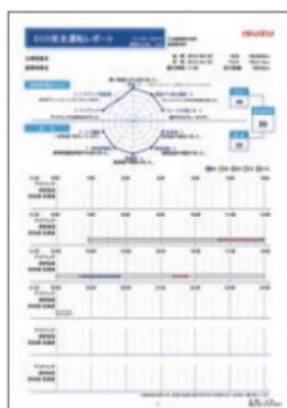


Nisshoku Butsuryu Co., Ltd.

Principal business	Logistics of chemicals
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The Nisshoku Butsuryu Group positions “providing environment-friendly, safe, and high-quality logistics services for chemicals and contributing to society through its RC initiatives” as its key management policy. Under this policy, we have been working on the reduction of GHG emissions as an initiative to reduce environmental impacts and promoting risk prediction as an initiative to achieve zero accidents and injuries. We also promote proper operation of advanced operation information systems and the introduction of vehicles equipped with Advanced Emergency Braking System as priority tasks.

We also worked on the following priority issues: prevention of environmental disasters and accidents, promotion of energy consumption reduction and resource conservation, prevention of accidents with vehicle equipment, prevention of chemical transportation/handling issues, and promotion of white logistics.



“Mimamori-kun” advanced operation information system



Advanced Emergency Braking System

[Initiatives of Group Companies TOP →](#)

Group Companies outside Japan

NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD. (China)

Principal business	Development, manufacture and sale of superabsorbent polymers and polymers for concrete admixture
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All employees of Nisshoku Chemical Industry (Zhangjiagang) were divided into 13 teams to join "Near Miss—Kaizen Activity 2021," and submitted a total of 160 suggestions (including 40 safety-related ones). In this activity, held twice a year, teams that made the most and the second most suggestions per capita are rewarded.

We also conduct emergency drills twice a year in collaboration with the local fire department and emergency response center to improve employees' emergency response capabilities.

In November 2021, we held first-aid training by an external specialist to enhance employees' first-aid skills.



"Near Miss—Kaizen Activity 2021" awarding ceremony



Emergency drill

Interview

Introduction of a new wastewater recovery system

Nisshoku Chemical Industry (Zhangjiagang) introduced a new wastewater recovery system in December 2021 and put it into use in January 2022. Since it started being used, the system has run well, and product quality has been maintained.

This system allows the company to decrease wastewater by about 1,800 tons per year, reducing its environmental impact and cutting the cost of wastewater treatment. The system also enables acrylic acid and water contained in the wastewater to be recovered for reuse. About 80 tons of acrylic acid can be recovered every year, which saves resources and production costs.

We hope to conduct similar excellent improvement activities in



Zhang Yao
Assistant to production
manager
Nisshoku Chemical

the future to help achieve the goals of environmental protection and cost reduction.

Industry (Zhangjiagang)
Co., Ltd.

NIPPON SHOKUBAI EUROPE N.V. (Belgium)

Principal business

Manufacture and sale of acrylic acid and superabsorbent polymers

Global warming (climate change) due to excessive GHG emissions is the biggest challenge of our times. In order to save our planet, Europe has the ambition to become the first “climate neutral continent” in the world. The EU has set an ambitious goal of reducing GHG emissions to at least 55% below 1990 levels by 2030, which is very challenging. The Nippon Shokubai Group strives to protect the environment. Nippon Shokubai Europe, its Group company, has subscribed to the SBT (science-based target) with a goal set in alignment with a maximum 1.5°C global warming up scenario.

The process started with the use of a carbon accounting method to calculate CO₂ emissions linked to three scopes that covered all our processes. This has led to a report on our CO₂ footprint. On this base report, our reduction roadmap is now being made. We will also share the progress towards net zero to all our stakeholders yearly. We will clearly show our environmental engagement, for, as we all know, climate change will not wait...



CO₂ emissions report

SINO-JAPAN CHEMICAL CO., LTD. (Taiwan)

Principal business

Manufacture and sale of surfactant and other chemicals

Sino-Japan Chemical's disaster response teams are divided into five squads (reporting, firefighting, evacuation guidance, safety protection, and emergency first aid) in the daytime. In the night time, the teams are split into three squads (reporting, firefighting, and evacuation guidance) based on the belief that rescue is the most important duty during the night hours, when staff are scarce and

visibility is low.

Early in 2021, in Linyuan Industrial Park, where our plant is located, more than one serious accident occurred, with most of them occurring at night. Therefore, in fiscal 2021, we conducted drills at night time. Moreover, explosion-proof lighting fixtures were added to existing equipment, and emergency lights were installed. Thanks to the employees' rich experience built up through past drills as well as good lighting equipment, the disaster response teams acted swiftly and reliably in the night-time drills, proving their capability of responding to a disaster at the same level as in day-time drills.

We will continue to conduct night-time drills on an ongoing basis to maintain and reinforce our night-time disaster rescue capabilities.



Night-time drill



Nippon Shokubai America Industries, Inc.

Principal business	Manufacture and sale of superabsorbent polymers, polymers for concrete admixture, water soluble polymers and acrylic emulsions
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In 2021, Nippon Shokubai America Industries continued to promote RC-focused initiatives at its two facilities: Chattanooga and Houston.

The Chattanooga facility has historically had ground settlement and sinkhole issues. To reduce the risk of groundwater contamination, all process and wastewater pipes that used to be located below ground were moved to overhead pipe racks. Additional proactive environmental protection measures were taken, including the rehabilitation of the plant's stormwater outfall area.

At the Houston facility, there were two large-scale planned maintenance events with no injuries. Before a planned maintenance, a safety slogan contest is held to foster a safety culture. The winning slogan for 2021 was: "No Safety, Know Pain. Know Safety, No Pain." This slogan was used on hardhat stickers and a large banner to remind employees of the importance of ensuring their safety at work.

Additionally, an emergency response training that focused on plant fire prevention and rescue operations was held jointly with American Acryl L.P. Through its environmental initiatives, the facility had zero air permit or stormwater deviations.

Both facilities have obtained ISO 45001, 14001 and 9001 certifications. Aiming to continue to accomplish their goal of zero accidents and/or injuries, the facilities will remain fully committed to achieving this in the future.



Emergency response training



Winning slogan for the safety slogan contest



SINGAPORE ACRYLIC PTE LTD

Principal business	Manufacture and sale of crude acrylic acid
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In 2021, Singapore revised the standards for the safety and health management system for the chemical industry (SS 651:2019) to achieve closer alignment with the new ISO 45001:2018. Therefore, employees of Singapore Acrylic attended trainings and made other efforts to meet the new requirements with the help of a consultant.

We also conducted the energy efficiency opportunities assessment mandated by the government as part of energy reporting requirements, with help of a consultant to identify areas of energy consumption improvement. We will study the feasibility of the suggested improvement ideas. SMAG (a conglomerate of four Japanese companies in the same complex), to which we belong, launched a safety campaign of slip, trip and fall prevention in response to recent incidents, including falling off a bicycle and slipping on a wet or uneven road surface. Video clips and slides were displayed on TV monitors, and environmental safety bulletins were put up on notice boards to raise awareness. A banner for slip, trip and fall prevention was also displayed at the entrance to SMAG plants.



Banner for slip, trip and fall prevention



Environmental safety bulletin

PT. NIPPON SHOKUBAI INDONESIA

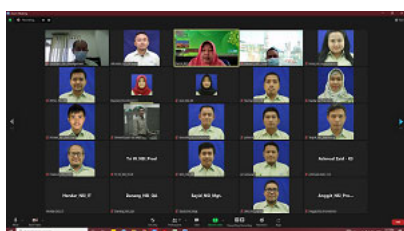
Principal business	Manufacture and sale of acrylic acid, acrylic esters, and superabsorbent polymers
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In 2021, Nippon Shokubai Indonesia had several opportunities to be verified or assessed by governmental and public agents.

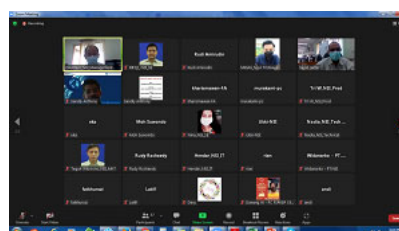
We are a member of Responsible Care Indonesia (RCI) and need to undergo verification for seven RC Codes of Management Practices every two years. RCI verification in 2021 awarded Gold Level to the company.

We have implemented SMK3 (Occupational Health and Safety Management System) based on Government Regulation No. 50, which was issued in 2012. We had an audit by a government certification body for certification renewal and obtained the certification of Advanced Category with a score of 90.96% across 166 criteria.

Furthermore, we received the “Blue” rating (full compliance with the regulations) of PROPER (Indonesia’s Program for Pollution Control, Evaluation and Rating) in the 2020–2021 period. For further development, we are striving to obtain the “Green” rating (exceeding the compliance level).



RCI verification (online)



SMK3 audit (online)

Initiatives of Group Companies TOP →

Initiatives for Environment

We promote initiatives to reduce the environmental impact of our business operations, including tackling climate change and reducing waste through our product supply chains.

Environmental Management



**Environmental Impacts of Our
Business Operations**



Tackling Climate Change



Eco-friendly Distribution



**Development and expansion of
Environmental Contribution
Products**



Chemical Substances Control



Waste Reduction



Air Pollution Prevention



Water Resource Preservation



Biodiversity Preservation



Environmental Accounting



Environmental Management

Environmental Protection Policy

Based on our Group Mission “TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology,” we have established the following policies.

- We will work to reduce greenhouse gas emissions by actively promoting the use of renewable energy and biomass feedstock, as well as improving energy efficiency.
- We will contribute to the achievement of a recycling-oriented society by reducing waste and chemical substance emissions and promoting recycling and the effective use of resources.
- We will actively develop and provide products and technologies that contribute to the reduction of environmental burdens.
- We will work to minimize the negative impact of our business activities on ecosystems and strive to preserve biodiversity.
- We will proactively disclose information on environmental protection and deepen mutual understanding with stakeholders through communication.

Promotion Organization

- RC Promotion Organization

Environmental Impacts of Our Business Operations

We are engaged in various efforts to not only provide better products and services, but also to reduce the environmental impacts of our business operations, including in our supply chains. We make efforts to conserve energy and tackle climate change of course. We are also managing the water used in our manufacturing sites in order to use water resources effectively, conducting advanced recycling and thoroughly treating water before it is released into the natural environment. Moreover, we also commission odor monitoring as well as conduct odor patrols and regular noise measurements so that neighboring residents can live in peace. In fiscal 2021, we received no reports of environmental pollution incidents or environmental complaints.



Note: This fiscal 2021 data is for only Nippon Shokubai (including our head offices, research centers and other sites).

Tackling Climate Change

[Click here for the TCFD report.](#) 


Promoting Greenhouse Gas (GHG) emissions reduction

Formulating a roadmap for reducing GHG emissions

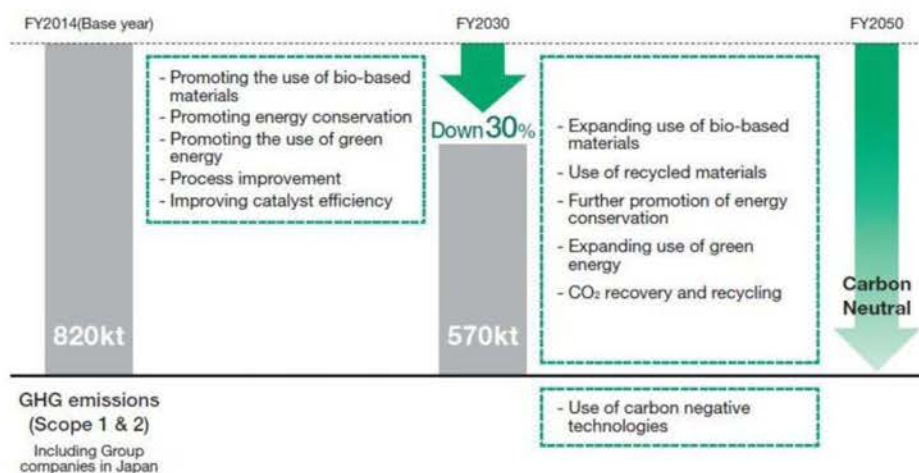
Nippon Shokubai has formulated a roadmap for reducing GHG emissions by 2050 based on “TechnoAmenity for the Future,” our long-term vision announced in April 2021. This roadmap concerns our “Strategic Transformation for Environmental Initiatives,” which is one of our “Three Transformations.”

In March 2019, the Japan Chemical Industry Association (JCIA) set a new CO₂ emissions reduction goal for fiscal 2030 (10.7% reduction from the fiscal 2013 level). With reference to this goal, we set a goal, in 2020, of reducing GHG emissions by at least 10% from fiscal 2014 levels by 2030, the final year of our long-term vision. We had made efforts toward the reduction, but in April 2021, the Japanese government substantially raised its GHG emissions reduction goal for fiscal 2030 to 46% from fiscal 2013 levels. In response to this upgrade, we revised our goal for reducing our GHG emissions in Japan, to begin with, which accounted for about 70% of our Group's total GHG emissions, to 30%.

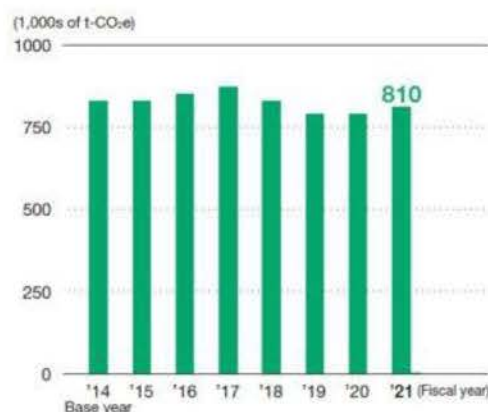
In fiscal 2021, our GHG emissions in Japan amounted to 810,000 t-CO₂e, 2% reduction from the fiscal 2014 level. Going forward, we will review our goals for reducing our GHG emissions outside Japan, too.

The calculation of GHG emissions and energy consumption has undergone third-party verification (see [Third-party Verification Report on GHG](#) ).

Roadmap for Reducing GHG Emissions by 2050 (Announced in November 2021)



Trend in GHG Emissions (in Japan)



Note: We changed the aggregation method in fiscal 2021.

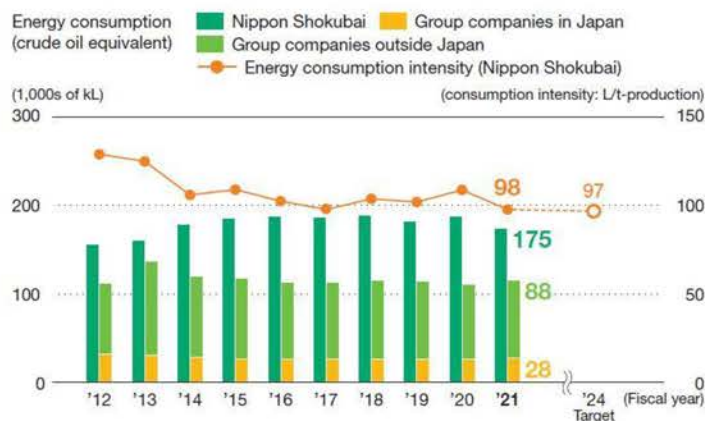
Reducing energy use/CO₂ emissions

At Nippon Shokubai, in line with the targets set in the commitment to a low carbon society by the JCIA, the RC Promotion Committee, chaired by the President, has formulated the Medium-term RC Basic Plan. Based on this Plan, each plant, under the initiative of the energy management committee, implements activities to help mitigate climate change, including reducing energy consumption and CO₂ emission intensity.

In fiscal 2021, our efforts to reduce energy consumption resulted in an energy consumption intensity of 98 L/t-production and a CO₂ emission intensity of 0.401 t-CO₂/t-production.

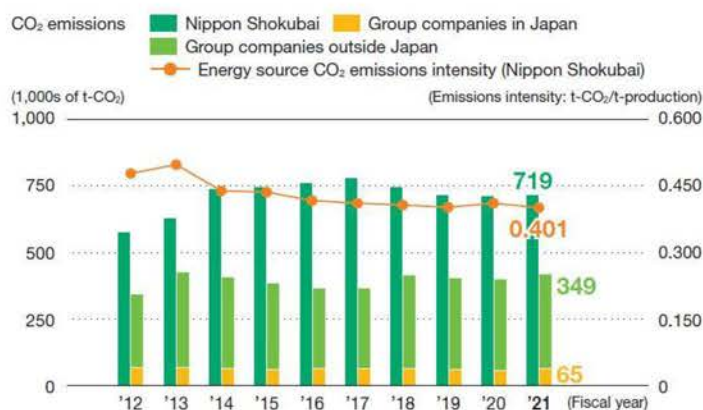
The Osaka and Tokyo head offices utilized the Green Power Certification System to use green power (generated from biomass). In fiscal 2021, the Himeji Plant started solar power generation (on-site PPA). We promote energy conservation activities through the collection of waste heat and the introduction of a co-generation system. We also collect part of the CO₂ generated in the manufacturing process and sell it as liquefied carbon dioxide to reduce CO₂ emissions.

Trends in Energy Consumption and Energy Consumption Intensity



Note: The amount of energy consumed and CO₂ emissions do not include our head offices, research centers, plant administration buildings or employee welfare facilities.
 Note: The amount of energy consumed and CO₂ emissions in fiscal 2021 totaled 9,000 kL and 14,000 t-CO₂, respectively, for our head offices, research centers, plant administration buildings, and employee welfare facilities of Nippon Shokubai.

Trends in CO₂ Emissions and Intensity



Note: CO₂ emissions are totals of energy source and non-energy source CO₂ emissions.
 Note: We changed the aggregation method in fiscal 2021.

Definitions

Green Power Certification System

Refers to a system that enables the environmental added value of electricity generated from natural energy to be traded in the form of "green power certificates" by business operators that issue the certificates with the approval of an authorized third-party organization.

Employee's Voice

Saving effort and reducing the input amount of steam by 20%

Waste water generated during product manufacturing is concentrated and then incinerated. In the concentration process, evaporated gas is conducted to a light-component removal tower, into which steam is blown to prevent organic constituents from falling onto the tower bottom and to distill them at the tower top. This distillate is then cooled to liquefy, causing the water to separate from the organic constituents. The organic constituents contain dioxane, a restricted substance. So, the supernatant liquid is extracted and incinerated.

In the supernatant liquid extraction process, it used to be necessary to regularly make measurements and adjust the



Takahiro Sakoguchi
 Production No. 3 Section,
 Kawasaki Plant

extraction amounts, because no monitoring instruments were installed and the amounts extracted with an air pump varied greatly. Installation of new pumps and flowmeters for constant monitoring of extraction amounts has saved the effort and stably kept the amount of the constituents contained in the waste water at the tower bottom from exceeding the target level. Also, it has become possible to determine how much steam we should blow into the tower bottom, leading to a 20% reduction in the input amount of steam.

We will continue to further optimize operation conditions to streamline the process.

Suppression of fluorocarbon emissions

The Act on Rational Use and Proper Management of Fluorocarbons was fully implemented in April 2015 and covers the entire lifecycle of fluorocarbons from production to disposal. In April 2020, regulations for the disposal of specified devices were tightened.

As a “user of specified products,” we carry out scheduled simple inspections and periodic inspections as required by law. The amount of fluorocarbon leakage calculated in fiscal 2021 totaled 7,069 t-CO₂e for the entire company, with 2,838 t-CO₂e from the Himeji Plant and 4,194 t-CO₂e from the Kawasaki Plant.

We will continue to strive to reduce the amount of fluorocarbon leakage through initiatives such as strengthening inspections and maintenance, introducing devices that use coolants with a low global warming potential and ozone depletion potential, and implementing proper treatment at the time of disposal of devices, which will help alleviate global warming.

Calculated Leakage of Fluorocarbons in Fiscal 2021

(t-CO₂e)

Himeji Plant	Kawasaki Plant	Others	Entire company
2,838	4,194	37	7,069

Promoting for the reduction of the CO₂ emissions resulting from our entire supply chain

Calculation of Scope 3 emissions

In Scope 3, the amount of GHG emissions associated with corporate activities in the supply chain is calculated for each category, and the amounts of all categories are aggregated. The GHG protocol classifies GHG emissions into Scopes 1, 2 and 3 as shown below.

Scope 1

Direct GHG emissions by the reporting company itself. (eg. fuel combustion, industrial process)

Scope 2

Indirect emissions from the use of electricity, heat, or steam supplied by others.

Scope 3

Indirect emissions other than Scope 1 and Scope 2 (emissions by others related to the company's activities).

We will continue to calculate Scope 3 emissions in the future as we investigate the possibility of reducing CO₂ emissions resulting from all corporate activities.

Trend in Scope 3 Emissions (Nippon Shokubai only)

(1,000 t-CO₂e)

No.	Category	Emissions		
		FY2019	FY2020	FY2021
1	Purchased goods and services	1,510	1,445	1,522
2	Capital goods	37	55	44
3	Fuel- and energy-related activities (not included in Scope 1 or Scope 2)	63	85	83
4	Upstream transportation and distribution	14	14	15
5	Waste generated in operations	7	7	8
6	Business travel	0.3	0.3	0.3
7	Employee commuting	0.9	0.9	0.9
12	End-of-life treatment of sold products	2,068	1,961	2,111
15	Investments	73	70	79
Total		3,774	3,637	3,862

Initiatives for the reduction of Scope 3 emissions

In order to contribute to the reduction of Scope 3 emissions, the following items will also be strongly promoted.

- Development and expansion of Environmental Contribution Products (products that contribute to the reduction of CO₂ emissions when used, etc.)
- Development and dissemination of CO₂ recovery and recycling technology (carbon recycling technology)

- Development and social implementation of material recycling and chemical recycling

Eco-friendly Distribution

Promoting White Logistics, which will lead to reducing environmental impact

As a way of tackling climate change through our logistics operations, we are taking steps to reduce our CO₂ emission intensity and implement exhaust gas countermeasures to control air pollution.

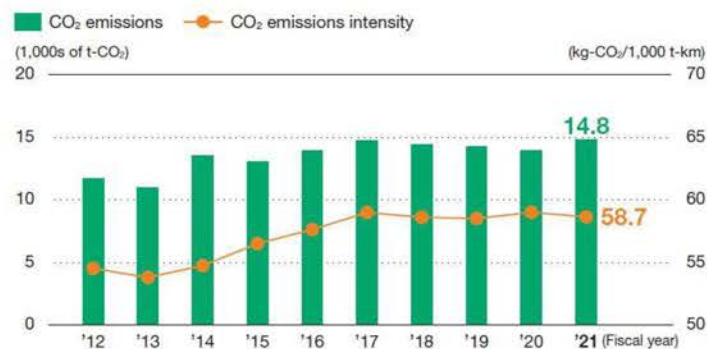
Although changing economic conditions can affect the amount of goods we transport and our CO₂ emissions, we are advancing initiatives to reduce our CO₂ emission intensity. These include an enhanced modal shift rate, improved transport efficiency, the introduction of digital tachometers interlocked with GPS and drive recorders, energy efficient vehicle operation such as minimal idling and the installation of energy-efficient tires, and the promotion of container round use.

We adopted the Kawasaki eco-transportation system as an air pollution control measure (effective April 1, 2010) and introduced three initiatives: eco-friendly driving and display of “eco-drive” stickers, elimination of vehicles that do not comply with laws regulating NOx and PM emissions, and widespread adoption of low-emission and energy-efficient vehicles.

In response to the increasingly severe shortage of truck drivers in the logistics industry, Nippon Shokubai supports the “White Logistics” promotion campaign, a movement aiming to realize sustainable logistics. For the purpose of improving productivity and efficiency of transportation and realizing a “whiter” working environment that is friendly to women and drivers in their 60s, we are advancing various initiatives, including improving efficiency of transportation by promoting a shift from long-distance transportation by trucks to transportation using roll-on/roll-off ships or railroad or by introducing joint transportation with other companies in the same business field, and improving loading and unloading operations.

We believe that these initiatives will contribute also to reducing the impact on the environment.

Trends in CO₂ Emissions and Intensity Attributable to Domestic Logistics





An example of modal shift (railway tank containers and loading and filling equipment)

Definitions

Modal shift

Changing the mode of transportation to a mass transportation method, such as using railways or ships, thereby improving the efficiency of transportation while also reducing energy consumption and environmental impact.

Kawasaki eco-transportation system

An environmentally friendly transportation system established by a partial amendment to the "Kawasaki City Ordinance for Conservation of Life Environment, including Pollution Prevention."

Roll-on/roll-off ship

A ship designed to transport wheeled cargo on trucks or chassis cabs.

Ton-kilometer

Transport ton-kilometer is a unit of transportation measurement referring to the freight transport volume. As an index for precisely expressing transport as an economic activity, it is the product of the freight haul distance (in kilometers) and the transported freight weight (tons).

Development and Expansion of Environmental Contribution Products

Environmental Contribution Products

Chemical products have an impact on the environment because they are produced using the Earth's resources and involve the discharge of CO₂ and other waste. However, looking at the entire product life cycle from raw material procurement to product disposal, in some stages chemical products contribute to a reduction in environmental impact.

We evaluate how our Group's products contribute to reducing environmental impact by being used through the supply chain in everyday products, for equipment that produces such everyday products, and in social infrastructure.

At Nippon Shokubai, an internal certification committee certifies the Environmental Contribution Products after examining the checklist items and numerical data. In fiscal 2021, two products were newly certified.

Applications in parentheses



IONEL™ (Lithium-ion battery materials)



AQUALOC™ (Concrete admixtures)



Electrolyte sheets for solid oxide fuel cells



VEEA™ (UV-curable reactive diluent)



Waste gas treatment catalyst



Waste gas treatment catalyst

Environmental Contribution Products

Global warming prevention / Energy conservation

Types of	Product life	Applications	Accredited products
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contribution	stage		
GHG reduction	Manufacturing	Aquaculture feed binders	AQUALIC™H (for feed)
		Concrete admixtures	AQUALOC™
	Use	Lithium-ion battery materials	IONEL™
		Solid-state battery materials	ICPDAP™, ICPSEB™
		CO ₂ absorbent	Aminoalcohol (NIPPON NYUKAZAI CO., LTD.)*
	Disposal	Paint and adhesive raw materials, reactive diluents	Isobornyl acrylate
		Paint and adhesive raw materials	Ethyl acrylate
Energy conservation	Manufacturing	UV-curable reactive diluents	VEEA™
	Use	Solid oxide fuel cell materials	Electrolyte sheets for solid oxide fuel cells
		Automotive damping materials	ACRYSET™ (for damping materials)
		Optical and electronic materials	ZIRCOSTAR™

*A product of our Group company

Chemical emission reduction / Air quality preservation

Types of contribution	Product life stage	Applications	Accredited products
Chemical emission reduction	Use	Water-based paints	UWR™, ACRYSET™ (for water-based paints)
		Water-based adhesives	EPOCROS™
		UV-curable paints	AOMA™
Air pollution prevention	Use	Removal of HC (hydrocarbon), NOx, dioxin and other pollutants from exhaust gas	Automotive catalysts
			Waste gas treatment catalysts
			Denitrification catalysts and equipment
			Dioxin decomposition catalysts and equipment

Water resource conservation / Water quality preservation / Biodiversity preservation

Types of contribution	Product life stage	Applications	Accredited products
Water contamination prevention	Use	Oxidation and decomposition of harmful substances in wastewater	Wastewater treatment catalysts for catalytic wet air oxidation
		Water treatment additives	EPOMIN™
	Disposal	Detergent builders	AQUALIC™L (for detergent)
Bio-degradability	Disposal	Detergent ingredients	SOFTANOL™
			HIDS™

Resources use reduction

Types of contribution	Product life stage	Applications	Accredited products
Resources use reduction	Use	Hollow fiber membranes	Polyvinylpyrrolidone

Waste reduction

Types of contribution	Product life stage	Applications	Accredited products
Waste reduction	Disposal	Concrete admixtures	AQUAGUARD™

Promoting CO₂ emissions reductions throughout the product lifecycle

We employ the cLCA method to assess the degree to which our products contribute to reducing CO₂ emissions.

The cLCA method assesses CO₂ emissions throughout the lifecycle of a finished product incorporating a specific chemical product compared with a product when assuming that the chemical products are not available. The difference in the volume of emissions is calculated as the net volume of emissions that would be avoided as a result of using that chemical product.

Nippon Shokubai's products that are expected to contribute to the avoidance of CO₂ emissions

AQUAGUARD™**4.05 million****tons^{*1*2}**

Calculation of CO₂ emissions avoided in one year when all apartments are built as long-lasting structures

AQUAGUARD™ was developed to reduce cracking and spalling in concrete. The combination of AQUAGUARD™ with a high-range water reducer for concrete is expected to contribute to much longer-lasting concrete structures.

*1 Assessment prerequisites

Service period: The lifecycle assessment assumes that a long-life apartment has a 100-year service life and a conventional apartment has a 50-year service life.

CO₂ emissions associated with the building, use and demolition of apartments are evaluated with reference to the "Guidelines for LCA for Buildings" published by the Architectural Institute of Japan.

*2 The prediction value used for this evaluation was recalculated based on conditions in recent years.

**ACRYSET™
(for damping materials)****310,000****tons^{*3}**

Calculation of CO₂ emissions avoided when an application-type vibration-damping material is installed in all automobiles manufactured in one year

We developed an emulsion for application-type vibration-damping materials for mounting on the lower surface of a vehicle body to reduce the noise and vibration from the engine and road surface. Using such material, it is possible to make the vehicle light and energy-efficient.

*3 Assessment prerequisites

The annual travel distance is assumed to be 10,000 km with a 10-year service life. Automobiles using asphalt sheeting as a vibration-damping material are compared and evaluated.

ZIRCOSTAR™**220,000****tons^{*4}**

Calculation of CO₂ emissions avoided when ZIRCOSTAR™ is incorporated in all smartphones manufactured in one year

This product has outstanding optical properties, and using it for plastic lenses, displays, and other optical materials increases the energy efficiency of displays on mobile phones, smartphones, and other handheld devices, contributing to a longer battery life.

*4 Assessment prerequisites

According to the usage time described in the Carbon Footprint Product Category Rules, the product was evaluated as being in use for two years.

A smartphone incorporating ZIRCOSTAR in the optical material was evaluated as achieving a 3.6% reduction in power consumption as an energy-efficiency benefit.

VEEA™**330,000****tons^{*5}**

Calculation of CO₂ emissions avoided by reduction expected

Use of VEEA™ as UV-curable reactive diluents for inks that are better for the environment makes volatile solvents, as well as related equipment, unnecessary, saves energy and increases productivity.

from all the UV
curable inks produced
in one year

***5 Assessment prerequisites**

Printed materials were assumed to be printed in four colors on full A-sized sheets with 3.2 g/m² of ink. Commercial offset and commercial UV printing presses were compared for evaluation.

**AQUALIC™H
(for feed)**

80,000 tons*6

Calculation of CO₂
emissions avoided
when all aquaculture
feed produced in one
year is replaced with
moist pellets (MP)

MP uses AQUALIC™H as the binder and thus contains a smaller amount of fish meal, which requires a large amount of energy in the procurement of ingredients and the drying process. Use of MP therefore results in a reduction of CO₂ emitted in the course of growing fish.

***6 Assessment prerequisites**

All feed in the aquaculture industry produced in Japan in one year was evaluated. The comparison target was dry pellets with a high content of fish meal and with no binders used.

**IONEL™
ICPDAP™
ICPSEB™
Electrolyte
sheets for
solid
oxide fuel cells**

**5.96 million
tons*7**

(1) Calculation of CO₂
emissions avoided
when solid batteries
are utilized as a
regulated power
supply for the use of
renewable-energy-
derived electricity
supplied in one year
(Use for electric
vehicles is not
included.)
(2) Calculation of CO₂
emissions avoided
from the use of fuel
cells

IONEL™, ICPDAP™ and ICPSEB™ are used for storage batteries. Storage batteries are expected to be utilized as a regulated power supply in order to enhance solar power and wind power, which are major sources of renewable energy subject to significant output fluctuations. Use of solid oxide fuel cells will also contribute to reducing CO₂ emissions as they can generate electricity and hot water with high efficiency.

***7 Assessment prerequisites**

For calculation of CO₂ emissions avoided from the use of storage batteries, fluctuations in electricity and regulated power supply were assumed so that the supply and demand of electricity are balanced at the most economically efficient point. For calculation of CO₂ emissions avoided from the use of fuel cells, because the amount of hydrogen supply cannot be predicted, evaluation was conducted based on fuel cells for houses, which generate power by modifying "city gas." The comparison target was thermal power generation.

**Aminoalcohol
(Nippon
Nyukazai Co.,
Ltd.)*8**

**5.5 million
tons*9**

Calculation of CO₂
emissions avoided in
one year when the
CO₂ emitted from
thermal power plants
is collected and stored
using a chemical
absorption technique

While renewable energy is increasingly being used, thermal power plants continue to operate to achieve stable power supply. Aminoalcohol contributes to CO₂ emissions reduction because this product is used when these power plants trap CO₂ from waste gas through a chemical absorption technique.

*8 A product of our Group company

*9 Assessment prerequisites

Aminoalcohol was used as an absorbing solution when CO₂ was separated and collected, and the amount of energy required mainly for the separation and collection was evaluated. The comparison target was CO₂ emissions without the separation or collection.

Note: The above assumed values are for comparative purposes only; the actual service life and performance are not guaranteed.

Chemical Substances Control

Reducing chemical emissions

In fiscal 1995, we participated in a voluntary PRTR survey undertaken by the Japan Chemical Industry Association (JCIA) and have set out to reduce our emissions of chemical substances into the environment.

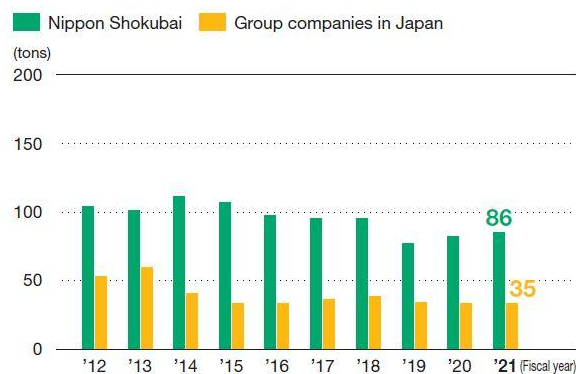
In fiscal 2021, we released 86 tons of substances subject to the PRTR Law, which represents a 20.0% decrease in emissions compared to fiscal 2015 levels. However, we were not able to achieve our target of 25% reduction from fiscal 2015 levels.

Top 10 Substances Subject to the PRTR Law Released in Fiscal 2021 (Nippon Shokubai only)

(tons)

Government Designation No.	Substance Subject to the PRTR Law	Released into Atmosphere	Released into Water	Total Emissions	Amount Transferred
405	Boron compounds	0.0	32.4	32.4	0.3
321	Vanadium compounds	0.0	9.2	9.2	0.0
4	Acrylic acid and its water-soluble salts	8.5	0.0	8.5	0.0
80	Xylene	6.6	0.0	6.6	0.0
58	Ethylene glycol monomethyl ether	3.1	0.0	3.1	0.0
56	Ethylene oxide	2.9	0.0	2.9	0.0
300	Toluene	2.9	0.0	2.9	388.2
104	Chlorodifluoromethane	2.2	0.0	2.2	0.0
12	Acetaldehyde	2.2	0.0	2.2	0.0
7	Butyl acrylate	2.1	0.0	2.1	0.0

Trends in Emissions of Substances Subject to the PRTR Law



Employee's Voice

Reducing emissions of methyl cellosolve by 1.3 tons a year

In the series of activities related to reducing emissions of substances of concern into the air, my department worked on reducing emissions of methyl cellosolve into the air because the department uses this substance as a reaction solvent to manufacture fine chemical products.

When the reaction is completed, pressure is applied to the reaction tank to discharge the solution. Then, vaporized methyl cellosolve (the "reaction solvent vapor") remains in the reaction tank. When the pressure is released, the reaction solvent vapor is condensed by a heat exchanger to collect it, but some of it is emitted into the air, and reducing such emissions was an issue. So, my department worked on the issue and took the following measures to reduce it:

- To change the coolant for the heat exchanger
- To extend the time it takes for the reaction solvent vapor to pass through the heat exchanger

These measures have enhanced the efficiency of collecting the reaction solvent vapor, reducing emissions by 1.3 tons a year. My department will continue to work on the reduction of environmental impacts, as early as the product development phase.



Yukio Shiotsuki
Fine Chemicals
Manufacturing Department,
Himeji Plant

Definitions

PRTR (Pollutant Release and Transfer Register)

A regulatory system that requires the reporting of emissions of designated chemical substances into the air, water and soil as well as the volume of waste transferred. Data compiled and submitted to governmental agencies are disclosed to the public.

Waste Reduction

Reducing the amount of waste subject to final disposal at off-site landfills

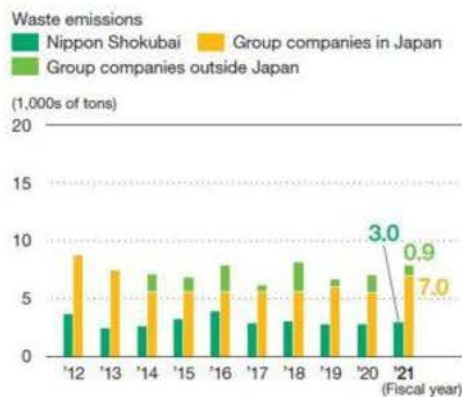
Reducing waste is a necessary initiative to support the creation of a society committed to recycling. Toward the goal of achieving and maintaining “zero emissions” (defined as “reducing the quantity of waste subject to final disposal at off-site landfills to less than 0.1% of the total amount of waste generated”), we are introducing sorting for the recovery and recycling of our waste. In fiscal 2021, we are continuing to implement our zero emissions policy by reducing the amount of waste subject to final disposal at off-site landfills. In addition to implementing comprehensive sorting for recovery and recycling, we are achieving this by redesigning our processes to reduce waste, reusing byproducts and processing product leftovers on site.

Waste Flowchart



Note: We partly changed the aggregation method in fiscal 2021.

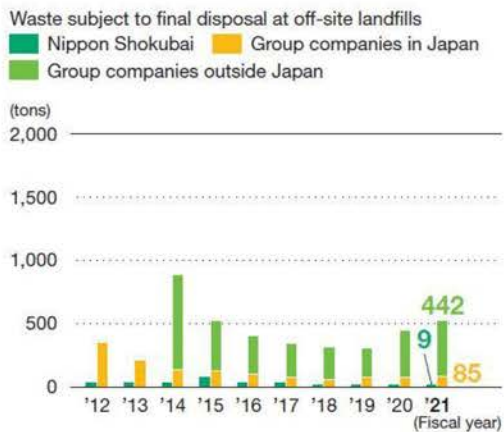
Trends in Waste Emissions



Trends in Recycling Volume



Trends in Amount of Waste Subject to Final Disposal at Off-site Landfills



Air Pollution Prevention

Pollution Control Initiatives Targeting Air

To prevent air pollution, we monitor our SOx, NOx and dust emissions. We have installed denitrification equipment for NOx emissions reduction, which we developed in-house, and scrubbers for dust emissions reduction. For SOx emissions reduction, we are reducing our heavy-oil consumption and converting the fuel to natural gas. For purification of unreacted raw materials from production processes, we use the waste gas treatment catalysts we have developed in-house. None of these emissions exceed the levels agreed with the local cities or prefectures.

Nippon Shokubai

(tons)

Fiscal year	2017	2018	2019	2020	2021
SOx emissions	2.8	3.5	3.5	3.7	3.1
NOx emissions	204	198	203	198	196
Dust emissions	6.4	6.3	6.5	5.7	7.4

Group companies in Japan

(tons)

Fiscal year	2017	2018	2019	2020	2021
SOx emissions	1.5	1.6	1.4	1.6	1.4
NOx emissions	48	45	43	48	72
Dust emissions	2.3	2.2	3.3	2.1	2.1

Water Resource Conservation

Our Group manufactures a wide variety of chemical products, and water is indispensable in their manufacturing process. For example, water is used to prepare water solution products, heat or cool materials in the manufacturing process, clean products, and operate detoxifying facilities that remove chemicals generated in the manufacturing process as well as drainage facilities. Therefore, we believe that ensuring the sustainability of water is an essential prerequisite to the continuity of our business and a mission we should take up for the sake of society. For water resource conservation, we work on efficient use of water and water pollution control, and we also aim to contribute to the resolution of water issues through our products and technologies (see [Environmental Contribution Products](#)).

Reducing Water Consumption (Efficient Water Use)

The Group aims to reduce water usage in our plants by using and reusing recycled water and making other efforts to use water efficiently.

Trends in water usage (water withdrawal^{*1})

(million m³)

Fiscal year	2017	2018	2019	2020	2021
Nippon Shokubai	15.8	15.0	14.9	14.7	14.8
Group Companies in Japan	5.6	5.8	5.9	6.0	6.0
Group Companies outside Japan	46.5	48.6	47.4	47.9	19.8

^{*1} Water withdrawal includes surface water, groundwater, seawater, and third-party sources (tap water, industrial water, etc.)

Trends in water discharge^{*2}

(million m³)

Fiscal year	2017	2018	2019	2020	2021
Nippon Shokubai	8.1	7.9	7.7	8.0	8.2

Group Companies in Japan	5.4	5.5	5.6	5.8	5.8
Group Companies outside Japan	45.8	47.2	46.1	46.6	18.0

*2 Water discharge includes water discharged into rivers, lakes, the ocean, and sewage

Trends in water consumption^{*3}

(million m³)

Fiscal year	2017	2018	2019	2020	2021
Nippon Shokubai	7.7	7.1	7.1	6.7	6.6
Group Companies in Japan	0.2	0.3	0.3	0.2	0.2
Group Companies outside Japan	0.7	1.4	1.3	1.3	1.7

*3 Water consumption = Water withdrawal – Water discharge

Water Pollution Prevention

For water pollution prevention, we adopt high-performance activated sludge treatment equipment that can stably process even high-impact substances to purify waste liquid in a sophisticated manner, striving to reduce the environmental impact of the discharge.

None of the emissions of chemical oxygen demand (COD), total phosphorus, or total nitrogen in the waste water exceed the levels agreed with the local cities or prefectures.

Nippon Shokubai

(tons)

Fiscal year	2017	2018	2019	2020	2021
COD emissions	54	55	50	50	56
Total phosphorus emissions	2.8	2.9	2.7	2.5	2.6
Total nitrogen emissions	47	58	55	52	56


Group companies in Japan

(tons)

Fiscal year	2017	2018	2019	2020	2021
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COD emissions	45	53	60	61	55
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Products and Technologies Providing Solutions to Water Issues

We develop and sell water treatment agents and wastewater treatment catalysts for wet air oxidation and decomposing hazardous substances in wastewater (See [Environmental Contribution Products](#)), osmotic pressure-generating agents for seawater desalination and wastewater treatment (See Page 17 of the [TCFD Report \(April 2022\)](#) ) , and other products to help solve problems with water resources.

Water Risk Assessment

We have confirmed with the Aqueduct Water Risk Atlas, developed by the World Resources Institute (WRI), that none of our business locations are in the “Water Stress” area. We will continue to check on this matter and work on reducing water-related risks.

Biodiversity Preservation

With the awareness that all of our business activities benefit from biodiversity and have an impact on it, we consider biodiversity preservation as one of the key issues to address in relation to sustainability. Our Environmental Protection Policy states that “We will work to minimize the negative impact of our business activities on ecosystems and strive to preserve biodiversity.” We believe that we can contribute to biodiversity preservation through our continuous activities to tackle climate change, protect the environment through our products, control chemicals, reduce waste, control air pollution, and conserve water resources.

With cooperation from local governments, NPOs, and other organizations, our employees participate as volunteers in activities to protect and restore the natural environment both inside and outside Japan. These activities are aimed at learning the importance of biodiversity preservation and training individuals to think about the environment and act for themselves.

Forest Development Initiatives

Contributing to Our Forests and Water Resources

Location : Akasai Valley, Hara, Haga-cho,
Shiso-shi, Hyogo prefecture

Activities : Forest improvement, river biological
surveys, and other activities

Start of activity : November 2008

We have been, for example, undertaking management of the headwater forest in the Akasai Valley where originates the Ibo River that passes by our Himeji Plant. We are also learning the value of biodiversity preservation through activities such as studying the organisms that live in and along the Akasai River.*



Research on creatures in Akasai River

* In the fiscal year 2020 and 2021, volunteer activities by employees were not held to prevent infection from spreading of COVID-19. The persons concerned have conducted the site visit.

Contributing to the “Yugawara Myriad Leaves Forest”

Location : Kajiya, Yugawara-machi,
Ashigarashimo-gun, Kanagawa prefecture

Activities : Forest improvement, nature
observation tours, and other activities

Start of activity : November 2013

In the headwater forest of upper reaches of
the Shinzaki River in Yugawaramachi, we
conduct forest improvement and nature
observation tours. The events serve as
opportunities to develop natural and
community forests together with local
residents.*



Yugawara Myriad Leaves Forest

* In the fiscal year 2020 and 2021, volunteer activities by
employees were not held to prevent infection from spreading
of COVID-19 .

Japan-Indonesia Friendship Forest Development in Banten Bay and Biodiversity Conservation

Location : Serang, Banten Province, Republic
of Indonesia

Activities : Tree planting

Start of activity : September 2018

Nippon Shokubai has launched an initiative
aimed at restoring mangrove forests in Banten
Province in the Republic of Indonesia, where
PT. NIPPON SHOKUBAI INDONESIA is located.*



Planting saplings

* In the fiscal year 2020 and 2021, volunteer activities by
employees were not held to prevent infection from spreading
of COVID-19 . The persons concerned have conducted the
site visit.

Japan-China Friendship Forest Development and Global Warming Prevention

Location : Ejin Horo Banner, Inner Mongolia
Autonomous Region, China
Activities : Afforestation, maintenance,
management, and the like
Start of activity : October 2008

In order to prevent desertification in inland
China and regenerate the vast forests that
were once there, we have been undertaking
tree planting in this area, and observing the
growth of the trees.*

* In the fiscal year 2020 and 2021, the on-site visit was not
held to prevent infection from spreading of COVID-19. We
have communicated with NPO to confirm the maintenance
conditions of the planting area.



Trees firmly rooted and grown in the desert area

Preserving and Popularizing the “Nojigiku” Chrysanthemum

To save, preserve, and popularize the
endangered nojigiku chrysanthemum, the
prefectural flower of Hyogo, our Himeji Plant
has cultivated 160 varieties of this flower,
including foundation stock, in a 2,000-square-
meter green yard by the plant. Cultivation
began in 1972 and by 1974 the Himeji Plant
began distributing seedlings annually in
cooperation with the Hyogo prefectural
government. In fiscal 2021, we distributed
15,000 seedlings to 335 organizations,
including local governments, kindergartens,
elementary and junior high schools and
community associations.



Nojigiku in a preservation garden

Environmental Accounting

The values determined in our environmental accounting were aggregated according to the “Environmental Accounting Guidelines for the Chemical Industry” published in 2003 by the Japan Chemical Industry Association (JCIA) and the Japan Responsible Care Council. We also made reference to the “Environmental Accounting Guidelines 2005” published by the Ministry of the Environment of Japan.

Environmental Protection Costs & Environmental Protection Benefits (Nippon Shokubai only)

Applicable period: April 1, 2021–March 31, 2022

Classification Main Initiatives	Amount Invested (millions of yen)	Expenses (millions of yen)	Effects
Business area cost 1. Pollution Control Cost Preventing air and water pollution, controlling hazardous substances	56	1,168	No pollution problems occurred.
Business area cost 2. Global Environmental Protection Cost Initiatives to reduce energy consumption and to tackle climate change	49	3,733	We conducted energy efficiency efforts equivalent to 6,185 kL (crude oil equivalent) annually.
Business area cost 3. Resource Recycling Cost Appropriate treatment and disposal of industrial waste	0	698	We maintained zero emissions by sorting and recycling our solid waste.
Upstream/downstream cost Reuse of resources	0	63	Some of drum containers are reused.
Environmental management cost Operation of environmental management structure; acquisition and maintenance of ISO 14001 registration	0	595	All our plants successfully acquired certifications, and we are seeking to enhance our environmental management systems.
R&D cost Reduction of the environmental impact through development and manufacturing of green products	0	3,227	Conducting R&D of products that contribute to the environment.
Social activity cost Environmental-related contributions	0	20	Implementing forest development initiatives.

Environmental damage cost —	0	4	—
Total	105	9,508	

Economic Effects (Monetary Benefits) Resulting from Environmental Protection Initiatives

Effect		Amount (millions of yen)
Income	Operating revenue from recycling used products and waste generated by principal business activities	30
Cost saving	Reduction in expenses associated with energy conservation	3,865
	Reduction in waste disposal cost accruing from resource conservation and recycling	2,826
Total		6,722

Reference: Total investment for the period; 8,101 million yen, Total R&D expenses for the period; 13,638 million yen

Definitions

Environmental Accounting

This system collects and analyzes the costs and effectiveness of environmental protection in business activities, quantitatively and to the maximum extent, and makes the data available to the public. It is focused on sustainable development for companies with the goal of efficiently and effectively promoting environmental protection initiatives while maintaining a good relationship with society.

Initiatives for Society

Respect for human rights



**Developing/Promoting the Active
Participation of Talents**



Diversity & Inclusion



**Process Safety and Disaster
Prevention**



Occupational Safety and Health



Chemical Safety



Quality



Supply Chain Management



Social Contribution



Respect for Human Rights

The Nippon Shokubai Group conducts business activities with respect for human rights as one of the foundations of business continuity. The Group promotes initiatives to respect human rights in line with human rights norms such as the Universal Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, and the United Nations Guiding Principles on Business and Human Rights. In addition, in accordance with the Group's basic policy on human rights, we will strive to promote understanding of respect for human rights throughout our supply chain to ensure that we are not complicit in human rights violations.

Basic policy on human rights

1. Respect for human rights

- (i) We will respect the human rights of all people and will not engage in any acts of unfair discrimination or any act that offends individual dignity for any reason.
- (ii) We will comply with international norms on human rights and the laws and regulations of each country and region to prevent human rights violations. In the unlikely event of a human rights violation, we will respond fairly and appropriately.
- (iii) We will recognize the impact of our business activities on human rights and will not provide products, form partnerships, or purchase products or services from companies or organizations that violate human rights or encourage human rights violations.

2. Prohibition of discrimination

Under no circumstances will we discriminate on the basis of gender, age, nationality, race, ethnicity, social status, origin, ideology, creed, religion, physical characteristics, sexual orientation, gender identity, disease, or disability.

3. Respect for basic labor rights

- (i) We will respect the right to form or join labor unions and the right to engage in collective bargaining and peaceful assembly in accordance with the relevant laws and regulations of each country and region.
- (ii) We will ensure sound employment and labor practices, and will comply with the relevant laws and regulations of each country and region in the treatment of employees, including wages, working hours, and leave.

4. Prohibition of forced labor and child labor

Under no circumstances will we use forced labor or child labor, nor will we tolerate forced labor or child labor in our supply chain.

5. Prohibition of harassment

Under no circumstances will we engage in discriminatory, threatening or offensive language or behavior, whether mental or physical, toward others, including sexual harassment, abuse of power, or discrimination against women in the workplace based on pregnancy or the birth of a child.

6. Protection of personal information and privacy

We will respect the privacy of individuals and collect personal information only to the extent necessary and appropriate. We will also strictly manage the personal information collected and will not disclose it to any third party or use it for any other purpose, except as permitted by law or with the prior consent of the individual concerned.

7. Respect for diversity

- (i) We will create a workplace environment and culture, where everyone respects and recognizes each other's diversity, and where everyone can play an active role and grow together.
- (ii) Each of us, as a professional, will maximize our individuality and abilities, and create new value through the fusion of our strengths.

Management structure

We consider human rights initiatives as one of our sustainability activities, and the TechnoAmenity promotion committee, chaired by the president, determines policies and strategies and evaluates the performance of initiatives. We will promote initiatives to respect human rights in accordance with the basic human rights policy of our Group.

Human rights due diligence

We have rolled out our initiatives to implement human rights due diligence in accordance with the procedures of the United Nations Guiding Principles on Business and Human Rights. We have identified potential negative human rights impacts of our business activities by referring to human rights guidance and risk assessments, such as the United Nations Environment Programme Finance Initiative (UNEP FI) Human Rights Guidance Tool. We also take measures to prevent or reduce the types of negative impact we have identified, depending on the nature of the impact. We will evaluate the effectiveness of measures taken and make improvements when deemed necessary.

In the event that human rights issues are found to have arisen as a result of the Group's business activities, we will promptly correct and remedy them through appropriate procedures.



Awareness-raising and development activities

With the aim of understanding and practicing respect for human rights, we deal with human rights-related topics in our compliance training, and provide training by job level and in each workplace. We also conduct harassment prevention training for managers on a timely basis. We will continue to provide training on respect for human rights in order to promote and consolidate employee understanding of the issue.

Internal reporting system

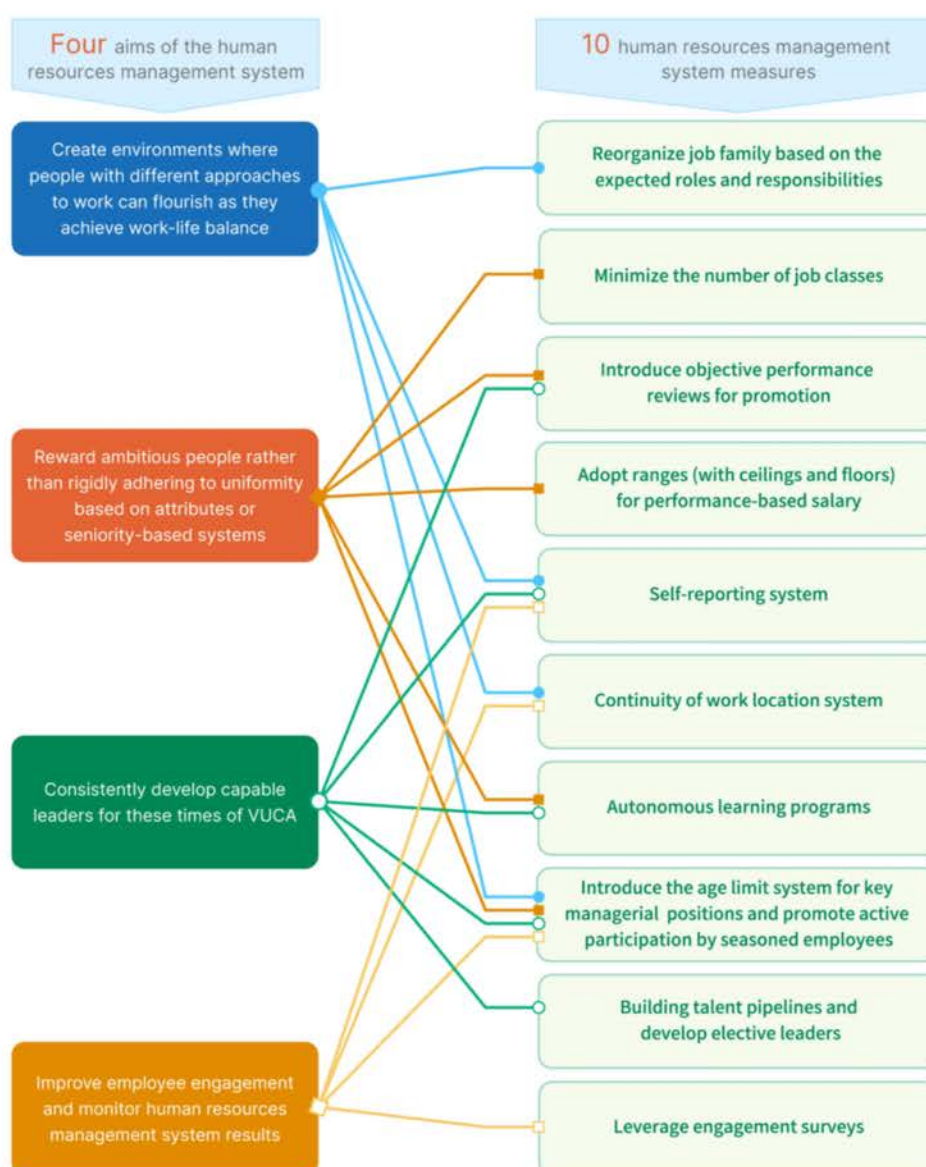
We have established an internal reporting system as part of our practice of corporate ethics and legal compliance. In the event that a fact of human rights violation is revealed through internal reporting, etc., we will promptly take corrective measures. We will also strive to prevent recurrence by reporting to management and disseminating information within the Group.

Developing/Promoting the Active Participation of Talents

Human resources management system

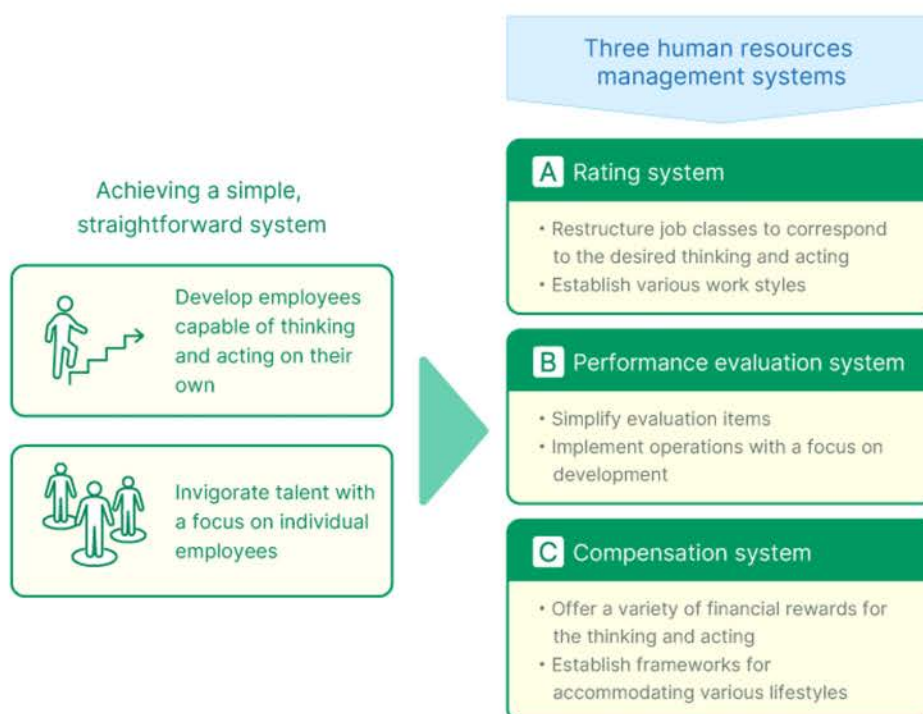
To promote our transformation into a company where diverse talent can flourish as they work in a constantly growing organization, we have established a human resources management system that encourages employees to think and act on their own and leverages their individual qualities and attributes. Our system aims to foster the personal motivation to grow by empowering ambitious, skilled employees to pursue more important roles and greater responsibilities as soon as they wish to.

Transformation in our Human resources management system



Concept of our Human resources management system: “think and act” and diversity

We have established three core human resources management systems based on the concept of “think and act” and diversity.



Systems that promote the invigoration of human resources with a focus on individual employees

Self-reporting

Each employee writes down own vision of career development and has a consultation with supervisor once each year.

This provides opportunities for employees to think about their careers in addition to helping the Company understand employees' thoughts and circumstances, information the Company can use to develop employees and examine ways to get them more actively involved.

The continuity of work location

We have introduced the continuity of work location system as a measure to promote diverse work styles and to secure talent.

Employees who would like to avoid changing work locations for childcare, nursing care, or other personal reasons may continue to work at their current office for as long as they wish.

Administering engagement surveys

Once each year, we administer an engagement survey to all employees to enhance their engagement by providing assistance for group invigoration activities at each workplace. The survey results are used to quantitatively evaluate the circumstances of each organization, and division leaders clarify organizational challenges and take steps to improve on them. This leads to the improvement of organizations and engagement as we administer progress surveys to verify the impact of the measures.

Promoting active participation by seniors

We provide training that helps seasoned employees reflect on their careers and consider ways to exhibit their strengths to the fullest to enable them to work independently over the long term as we approach an era in which people live for 100 years. We are also working on measures to support career independence, for example enrolling employees in a practical program that allows them to experience working for other companies without giving up their current positions.

Talent development

Overall vision for talent development



Talent development policy

The Nippon Shokubai Group **views employees as essential assets based on the recognition that people are the source of constant value creation.**

The following three points are the focus of our talent development.

1. **Utilizing the individuality, willingness, and abilities of diverse talent**
2. **Providing support to talent who think, act, and grow on their own initiative**

3. Fairly evaluating and rewarding employees under company systems

To become a chemical company that continuously evolves based on an acute awareness of changes in society, **we implement and promote the invigoration of talent with a focus on individual employees so that they can exhibit their individual strengths to the fullest.**

Ideal talent

In talent development, the Company and employees are on equal footing; the Company provides employees with opportunities for growth and expects them to have high aspirations and motivation to grow as well as to contribute to the Company.



Definition of ideal talent

Respect for Diversity & Inclusion

People who respect and acknowledge each other's differences and can contribute organizations where everyone can grow and flourish. People who can improve productivity by enhancing the psychological safety of organizations.

Collaboration

People who as members of an organization can create synergy by cooperating with other members to achieve a goal. People who can work to maximize organizational value through effective communication within the organization.

Challenge & Action

People who interpret things positively and can think and take action on their own. People who can facilitate individual and organizational development by taking on challenges without fear of failure.

Professional

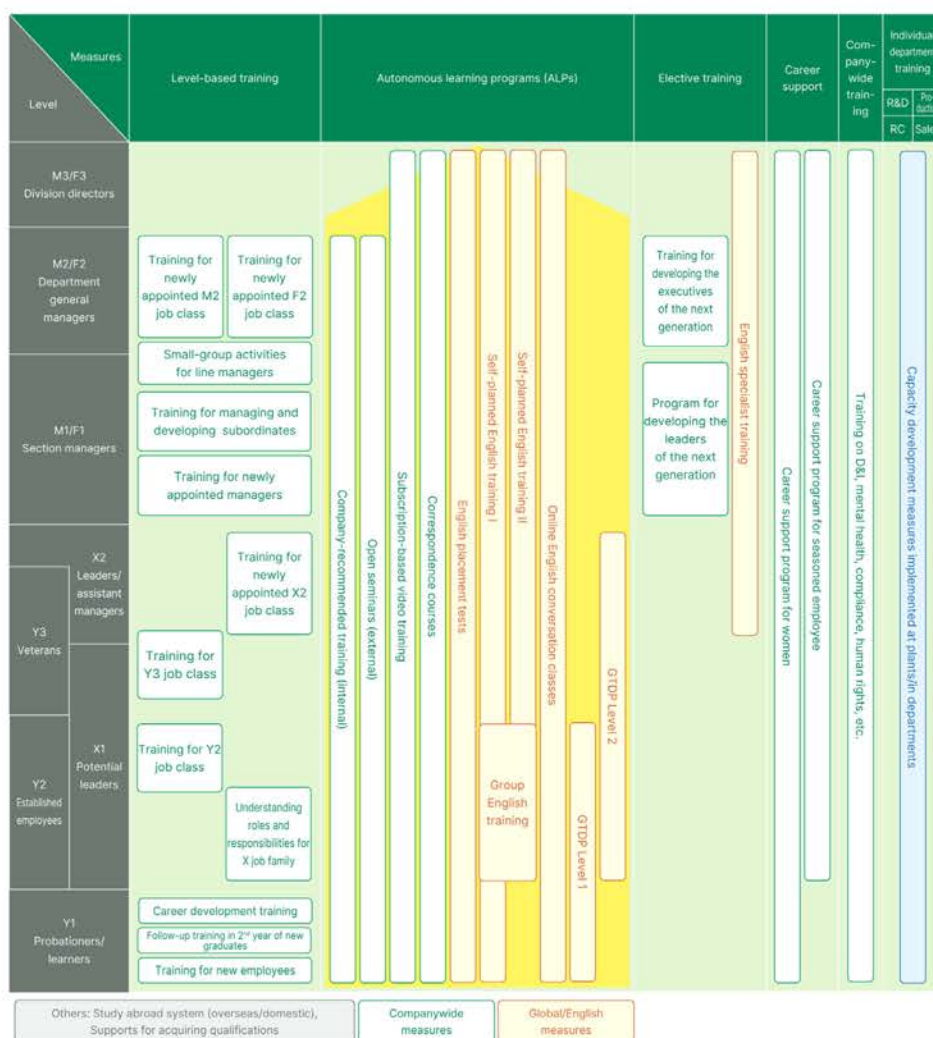
People who can contribute to the organization as professionals with a sense of pride and responsibility for their job. Also, people who proactively work to improve their skills with the aim of becoming professionals.

Globalization

- People who can adapt flexibly to changes in the external environment based on an awareness and understanding of global standards (e.g. international standards, rules, ideas, systems).
- People who can use their understanding of foreign cultures as well as their linguistic ability and other components of effective communication to expand their fields of expertise in addition to creating opportunities and produce results for organizational development.

Talent development system

On-the-job training (OJT) is the basis of employee growth and the foundation of learning from working experience in actual positions and workplaces. The process promotes growth as trainees receive support from their supervisors and fellow employees. We concurrently create opportunities for off-the-job training—learning from training and other experiences outside the workplace—to foster among each and every employee the motivation to create a vision of the person they want to be in terms of ideal talent and to enhance their own value to achieve that vision.



Developing autonomous talent

We promote the development of autonomous talent who find their own purpose and take the initiative to work toward solutions rather than waiting for instructions. We visualize the skills required for each job family and advancement in terms of the definition of the different job classes under the Human resources management system and the matters considered for advancement. In addition to ongoing level-based training, we provide opportunities for each and every employee to apply their skills in systematic learning to progress toward the next level. Specifically, we have enhanced Company-recommended training named “autonomous learning programs (ALPs)” in which employees can choose and participate in order to improve their skills and abilities, and have made other efforts to establish a system allowing everyone to develop their capacities effectively and efficiently.

Developing talent for leaders

We are implementing a variety of measures to cultivate leaders who can drive the organization.

Specifically, we offer training to develop the executives and leaders of the next generation who will bring innovation to the Company. We have also extended invitations to roundtable management discussions—previously conducted for general managers throughout the Company—to section managers as well, and are conducting manufacturing manager training, which lasts 18 months and specializes in developing potential section managers for manufacturing divisions.



Leaders training

Developing talent who will be active Globally

Nippon Shokubai has over 14 overseas affiliated companies, in which over 50 Japanese expatriates are working. As our overseas sales revenue accounts for around 50% of our Group's total sales, it is increasingly important to develop talent who can play active roles on a global scale. We have a program to dispatch young employees to our overseas affiliates as trainees for short periods of time, and also use foreign trainers to provide training for employees who are likely to be seconded overseas to give them various multicultural skills, such as cross-cultural communication, presentation and negotiation skills.



Global talent development program

Promoting work-life balance

Providing balanced assistance for work, child care and nursing care

To create a better environment that supports employees with their parenting and nursing responsibilities while employed, we are working to establish systems and raise the awareness of our employees. We have published a guidebook that summarizes our balanced support system to keep the users of the system informed, while working to improve the system so that users can easily obtain the understanding of and cooperation from their superiors and coworkers.



The Osaka Labour Bureau of the Ministry of Health, Labour and Welfare granted us an authorization for complying with Standards for General Employers under the Next Generation Nurturing Support Measures Promotion Law.

- * Number of persons taking childcare leave of absence: 23 (FY 2021 total)
- * Number of persons using reduced working hours system for childcare: 24 (FY 2021)

Reducing overtime work hours and encouraging the taking of leave

At Nippon Shokubai, the Working Hours Management Committee has been established by both labor and management to check the monthly overtime work hours of each employee and endeavor to reduce them by enhancing the teleworking and flextime systems. Employees who have worked long hours are encouraged to speak with an industrial physician or receive a health check via a medical questionnaire every month. Based on the results of the health check, the employee's supervisor receives guidance or instructions from the industrial physician. To encourage employees to take paid leave, the company has introduced a system to allow paid leave to be taken by the hour. We will continue to make efforts to create a working environment friendly to employees by paying attention to their work-life balance.

- * Average monthly overtime hours per person: 15 hours (FY2021)
- * Percentage of annual paid leave taken: 64% (FY2021)

Promoting mental and physical health management

To maintain and improve the mental and physical health of our employees, we have introduced various measures to help them to manage their health. Administered by our industrial physicians and occupational health staff, these efforts revolve around the health promotion office in each of our business offices. Specifically, we conduct general and specialized health examinations and provide tailored health advice in cooperation with the Nippon Shokubai Health Insurance Union. Together, we arrange health checks with dentists in addition to family health checks and the like. We also offer educational activities such as in-house lectures and physical strength measurement sessions on a regular basis.

We have formulated a Mental Health Plan aimed at staving off mental and physical illnesses. At the same time, we are working to improve productivity and create a bright and lively workplace by providing stress checks and level-based training focusing on mental health education for all employees. In FY2019, we held 10 sessions of line care training targeting around 550 managers throughout the company. In FY2020 and FY2021, we provided web video training to leaders and young employees, respectively.



Mental health training

Toward a sound labor-management relationship

Nippon Shokubai and the Nippon Shokubai Labor Union, a member of the Japanese Federation of Energy and Chemistry Workers Unions, maintain a dialogue based on mutual respect as their basic stance. Respecting the three rights of labor and through a good labor-management relationship based on mutual understanding and trust, we are addressing the resolution of various issues and achievement of goals through cooperation. Regarding collective bargaining, we have specified the scope of negotiations, procedures, the method of settlement, and other matters in collective labor agreements so that various issues can be properly solved and overcome through dialogue. Moreover, meetings of the central labor-management council and meetings of the branch labor-management council at each plant are held periodically as forums for exchanging opinions between labor and management. The company and the union have concluded a union shop agreement under which all our regular employees join the union.

Diversity & Inclusion

Message from the Management on Diversity and Inclusion(D&I) Promotion

Diversity & Inclusion in our company means that diverse employees, not only diverse in race, nationality, gender, age, or disability, but also diverse in ability, individuality and values of each individual, respect each other, demonstrate and integrate their abilities, and create new value.

The environment surrounding the Nippon Shokubai Group has constantly been changing, with factors including soaring raw fuel prices, movements toward carbon neutrality, and the reorganization of the petrochemical industry. These changes will continue to occur, making it increasingly difficult to predict what is going to happen next.



Under these circumstances, I believe that what is important is flexibly responding to changes, helping customers resolve increasingly diverse issues from their perspectives and offering multiple technologies and product lines as solutions to them. D&I will play a key role to achieve our long-term vision “TechnoAmenity for the future”, and this is why “Promote the active participation of diverse human resources” was positioned as one of the initiatives for organizational transformation.

In the 80-year history of Nippon Shokubai, an environment has not been developed until recently, which enables women to play an active role at manufacturing sites, so the ratio of men in workplaces is extremely high. Also, a very small number of foreign employees are working in the company in Japan. I fear that we may lose our competitive advantage if we continue to allow our existing, homogenous workplaces to develop products and businesses. When employees with diverse backgrounds, regardless of gender, age, nationality, individuality, and sense of value, gather, speak from different viewpoints, and share ideas, we can have in-depth discussions and findings, and make it leads to the creation of innovation.

In addition, we declare “developing autonomous talent” for organizational transformation in the long-term vision. This means fostering individuals who are capable of paving their way and walking on their own. I also believe that it is important to develop autonomous talent by promoting D&I and thereby transform ourselves into an autonomous organization.

The D&I Promotion Policy was established in August 2020. And in April 2021, we established the D&I Promotion Group within our Human Resources Department.

These three policies are required to reach solutions to some of the management challenges facing Nippon Shokubai, but it also reflects the proposal to the president by the “Women’s Empowerment Project,” in which five women in core managerial positions served as project members in FY2019.

Its proposal to the president was not only focusing on women’s participation but also promoting the active participation of broader employees. And this aim was developed into these three policies which aim at developing a workplace environment where diversity is ensured, respected, and fully utilized.

In the new human resources management system introduced in April 2022, we have introduced a grade and evaluation system that appropriately evaluates individual abilities and performance and leads to promotions, which is not based on educational background and seniority standards. We have also introduced the self-reporting system that provides opportunities for employees to autonomously think about their career plans and share them with their superiors, and the continuity of work location system that leads to flexible work styles according to individual circumstances. In addition, we expanded open application-based learning support programs in order to encourage all employees to develop their own career plans and actively acquire knowledge, including employees who were not provided enough opportunities before. We also have created a work environment that allows highly flexible work styles through a flextime system without core hours and a teleworking system.

In our current situation, I believe that the first indicators to measure the progress of D&I promotion are the ratio of women hires, the ratio of women in managerial positions, and the ratio of men taking childcare leave. The ratio of women hires is 23.3% in FY2021, and the ratio of women in managerial positions increases from 1.6% in 2015 to 4.1% in 2021. Since around the year 2000, we have been increasing the number of women in workplaces, and the area of playing an active role has gradually expanded. We are also working to ensure having excellent talent through mid-career recruitment regardless of gender or nationality.

We support the target set by Japan Business Federation for 30% of executives to be women by 2030. Although the target is extremely far from now, we believe it is important to walk toward these milestones, even if little by little, and have started considering various measures with an eye to the future.

We continue to promote D&I, so that strive for the mutual growing and development of Nippon Shokubai and its employees and to provide new value to society in the future.

Member of the Board, Managing Executive Officer
Administration, HR, Finance, Accounting, General Affairs & HR Division.
Kuniaki Takagi

Respecting diversity

D&I Promotion Policy

We have formulated a D&I Promotion Policy in order to respect the diversity of our employees. We recognize diverse ability, individuality, and value of each individual and unify them to enhance collective strength of Nippon Shokubai Group. We are implementing various measures to become an organization in which everyone can flourish in their own way.

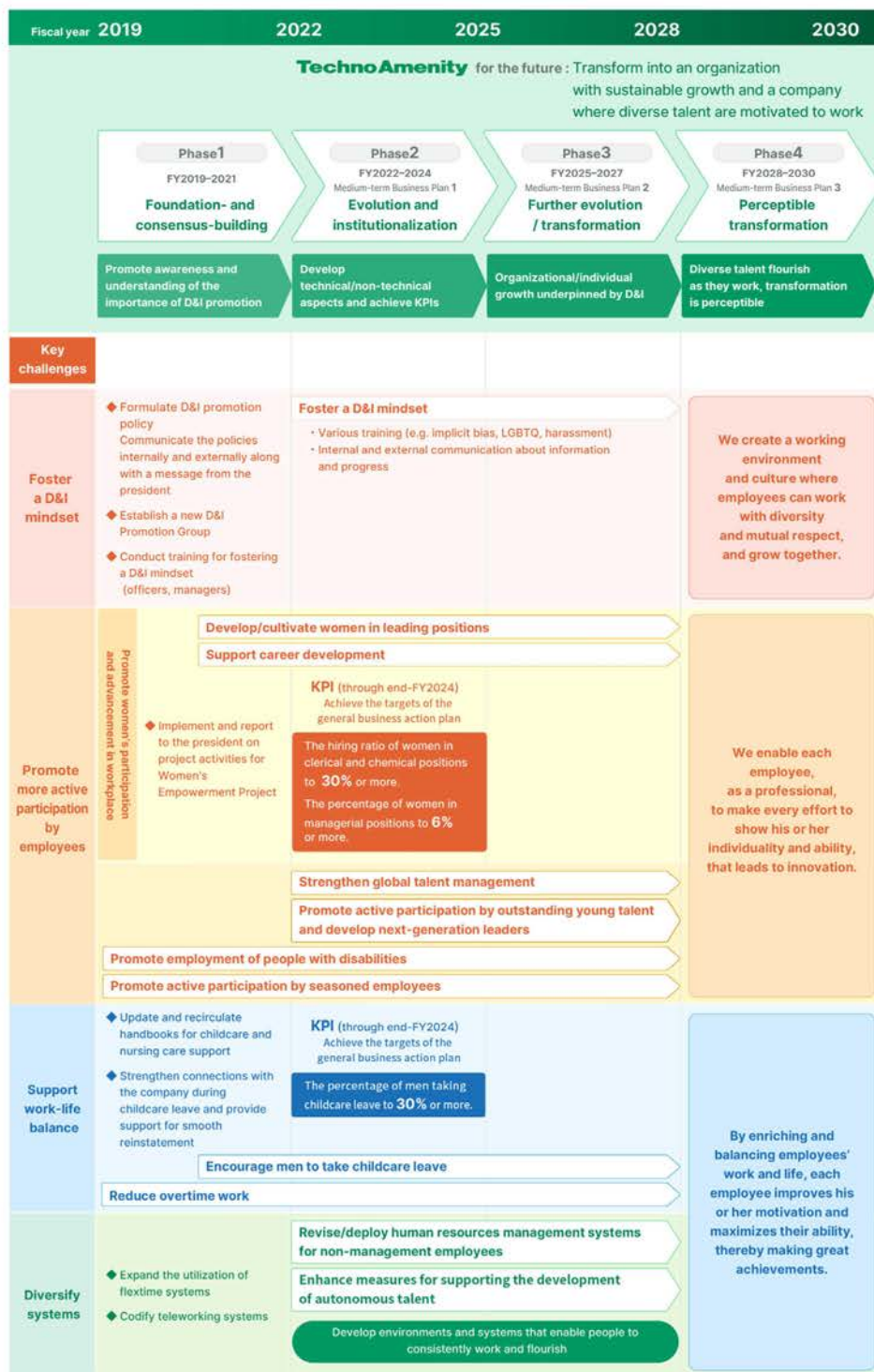
< D&I Promotion Policy >

1. We will create a working environment and culture where employees can work with diversity and mutual respect, and grow together.
2. Each employee, as a professional, will make every effort to show his or her individuality and ability, that will lead to innovation.
3. By enriching and balancing employee's work and life, each employee will improve his or her motivation and maximize their ability, thereby make great achievements

Promoting active participation of diverse talent

D&I Promotion Roadmap (to FY2030)

We formulated a roadmap to FY2030 after setting out four key challenges for promoting D&I (fostering a D&I mindset, promoting the further empowerment of employees, supporting work-life balance, and the diversification of the corporate system). The human resources department's D&I Promotion Group established in April 2021 is leading our planning and implementation of various measures.



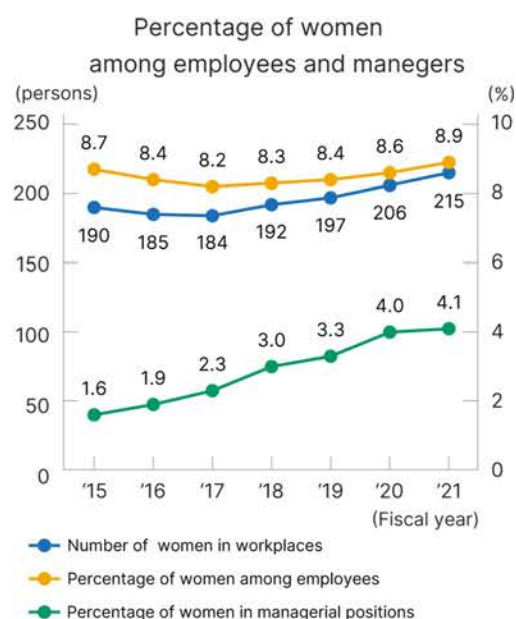
For the purpose of “fostering a D&I mindset,” we conducted D&I management training targeting all officers and line managers (around 150 people). Group work and discussions were held on important themes, including management of diverse talent, unconscious bias, and psychological safety. At the same time, a video of this training was distributed to approximately 500 employees in managerial positions with the aim of raising awareness of management personnel. As a part of the “supporting work-life balance” initiative, we updated the contents of the guidebook on worklife balance support and notified employees of the update.



D&I management training

Promoting women’s participation and advancement in workplaces

Nippon Shokubai has been working actively to ensure gender neutral recruitment and institutional development. In FY2019, a team of women in managerial positions implemented a project to identify and recommend solutions to challenges against the active participation of women at the Company. The project eventually led to our current efforts to promote D&I.



Effective use of re-employment system

Aiming to help stabilize the lives of retired employees, we set the period of re-employment until the age of 65, ensuring employment in a familiar work environment. This initiative, intended to provide employees with a sense of security and improved motivation for work, has encouraged over 100 experienced seasoned employees to contribute to the handover of core techniques and the development of young talent.

* Re-employment rate of retired employees: 88% (FY2021)

Promoting employment of people with disabilities

We are committed to employing people with disabilities, who are playing active roles in various jobs at each of our workplaces.

Moreover, NS Green Co., Ltd., our designated Group subsidiary established from the perspective of promoting the employment of people with disabilities, is in charge of the management of green spaces of manufacturing plants, and also grows seedlings of chrysanthemum in small pots every year. The pots are distributed to approximately 300 organizations for free, thereby supporting the urban greening project by the prefectural government.

Employment of foreign nationals

In anticipation of further expansion of our business across the globe, we continue to hire foreign nationals in Japan as well as in our Group companies in other countries.

Ensuring the diversity of talent

The Nippon Shokubai Group searches far and wide for diverse talent to underpin our sustained growth. Our hiring policy is to open our doors to everyone—regardless of gender, age, nationality, race, ethnicity, social status, origin, ideology, beliefs, religion, physical attributes, sexual orientation, gender identity, or the presence or absence of illness or disabilities—and to engage in fair and equitable hiring practices based solely on applicants' aptitude and abilities.

Initiatives under the Next-Generation Children Act and the Women's Participation and Advancement Promotion Act

Based on the Act on Advancement of Measures to Support Raising Next-Generation Children (Next-Generation Children Act) and the Act on Promotion of Women's Participation and Advancement in the Workplace (Women's Participation and Advancement Promotion Act), we set goals and an action plan for the period from April 1, 2021 to March 31, 2025.

Target 1

Increasing the hiring ratio of women
in clerical and chemical position to **30%** or more.

Challenge

Low percentage of women
among employees

FY2021 figure

percentage of women
among employees ...**8.9%**
percentage of women
in clerical and
chemical position ...**23.3%**

Example measures

- Proactively profile women who are actively participating and the work they do to serve as models
- Develop environments and systems that enable people to consistently work and flourish

Target 2

Raising the percentage of women
in managerial positions to 6% or more. **6%** or more.

Challenge

Low percentage of women in
managerial positions
compared to the percentage
of women among employees

FY2021 figure

percentage of women
in managerial positions ...**4.1%**

Example measures

- Develop/cultivate women in leading positions
- Enhance career design seminars

Target 3

Increasing the percentage of men
taking childcare leave to **30%** or more.

Challenge

Low percentage of men take
childcare leave

FY2021 figure

percentage of men
take childcare leave ...**7.2%**

Example measures

- Foster a D&I mindset in managerial positions
- Inform eligible male employees and their superiors of childcare leave systems

Process Safety and Disaster Prevention

Under the Safety Philosophy “Safety takes priority over production,” all our employees take part in various activities to ensure safety.

- RC Policy
- RC Promotion Organization

Basic Approach to Safety Issues

We have incorporated the lessons learned from the accident at the Himeji Plant in 2012 to reinforce our basic approach to safety issues. We have clarified our Safety Philosophy, Safety Oath, and the safety management principles presented below, as well as the roles of the company at each organizational level, and are ensuring that all employees stay fully informed.

Safety management principles

We are putting into practice the fundamental principles for safety management, behavior principles during production activities and other guidelines that are established in the Safety Management Regulations of our company.

<Fundamental principle of safety management (excerpt)>

(1) Assure safety based on our Safety Philosophy, “Safety takes priority over production.”

<Behavior principle during production activities>

(1) Stop operation immediately if you discover something abnormal in the functioning of equipment.

No one will ask who was responsible.



Safety Philosophy, “Safety takes priority over production”



Safety Oath

Message from the President on Safety

On Safety Oath Day in fiscal 2021, our President said in his speech that each employee should keep in mind our Safety Philosophy, "Safety takes priority over production," in steadily implementing basic safety activities and measures against the recurrence of accidents every day with a sense of ownership, and that the accumulation of such step-by-step efforts would lead to the attainment of more trust from customers. He also requested that we hold safety discussions in every workplace during our Safe Operation Month (September 16 to October 15), in which everyone should discuss and reconfirm their individual roles, in other words, what they should do in their workplace to strengthen a culture of safety prioritization.

In addition, the President visited the Himeji and Kawasaki Plants to conduct safety inspections. He had a lively dialog with the employees and reemphasized that we should continue to pursue safe and stable production activities with our Safety Philosophy "Safety takes priority over production" deeply in mind, as well as to keep taking thorough measures against COVID-19.



Inspection of Kawasaki Plant by President



Inspection of Himeji Plant by President

Promotion of Voluntary Safety Initiatives

Since its foundation, Nippon Shokubai has ensured safe production with the technologies we developed in-house, and the voluntary safety initiatives we have introduced are aimed at zero Class A and Class B severe process safety accidents.

Efforts to prevent accidents and malfunctions

We employ HAZOP to identify latent risks in a plant. We are working to prevent incidents by systematically implementing HAZOP for both routine and non-routine work, and also by conducting Management of Change and non-routine work management.

As small group initiatives, we are promoting HMI activities at the Himeji Plant and TPM activities at the Kawasaki Plant to identify problems and implement improvements.

We will continue with our multi-faceted approach to prevent accidents and malfunctions.

Systematic implementation of safety measures

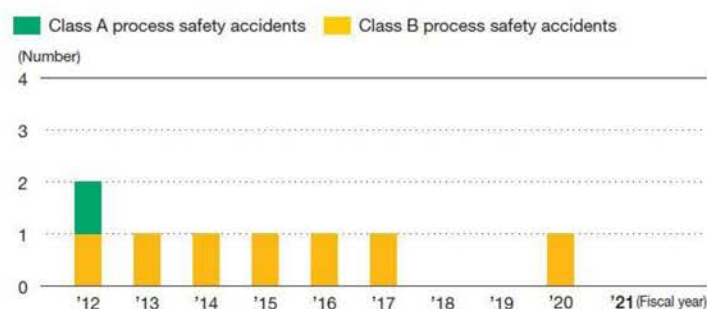
When an accident happens, we investigate the cause in stages and introduce measures to prevent any recurrence. Long-term maintenance of facilities is incorporated in our maintenance plans and implemented according to the plans. We are also systematically dealing with the aging degradation of our facilities.

Earthquake preparedness

Following the Great East Japan Earthquake of 2011, we reviewed our earthquake preparedness in the event of a future major earthquake and tsunami from both the tangible and intangible aspects and are adopting the necessary measures, which are periodically reviewed and reinforced. Regarding the existing measures that are in place to improve the seismic resistance of high-pressure gas facilities, we confirmed that all spherical reservoirs with steel tube bracing and those towers and tanks that are important high-pressure gas facilities have seismic designs that meet the seismic standards for reporting to the relevant authorities. We continue to implement seismic resistance measures for our piping facilities in fiscal 2022.

Results of process safety accidents

In fiscal 2021, we had zero class A or B process safety accidents. We will continue our efforts to prevent process safety accidents while constantly improving safety activities.



Enhancing education and training

To upgrade the skills and expertise required to maintain safe operations, we are fulfilling the requirements for training-related risk management at our chemical plants.

Courses on risk management and other related themes were given by instructors from Sanyo Association for the Advancement of Science & Technology, online in fiscal 2021, in due consideration for the prevention of COVID-19 infection. A total of 54 people participated.

At both plants, we have collected "know-why" information so that people can understand the origins of our procedures and rules and to enable skills to be passed on. We are using this information for teaching.

The opinions voiced by our employees have encouraged us to continue conducting training both inside and outside the company to improve knowledge of safe operations and to increase safety awareness.



"Chemical plant accident prevention based on actual case study" class

Maintenance and improvement of safety management efforts

Each year, RC inspections are conducted by executive management at both Himeji and Kawasaki plants. In fiscal 2021, they verified the safety management activities at both plants.

The Executive Officer of the RC Division at our Head Office conducted safety audits as the head of the auditing committee, to ensure continuous improvements to our safety management.

High-pressure gas safety accredited plants

The Ministry of Economy, Trade and Industry accredited the Chidori Plant and the Ukishima Plant located at our Kawasaki Plant as Accredited Completion Inspection and Safety Inspection Executors for high-pressure gas in 1989 and 1991, respectively. Reaccreditation inspections are conducted every five years.

This accreditation permits continuous operation of high-pressure gas production facilities and autonomous safety inspections by companies with competent self-managed safety systems.

Improving emergency drills

We have established disaster prevention arrangements at every plant, and we systematically conduct a variety of emergency drills every year.

In fiscal 2021, we had to take extra care to prevent COVID-19 infection in the emergency drills as in the previous year, but we exercised our ingenuity in conducting them.

By feeding back issues that were made apparent in the emergency drills in the future trainings, we

will continue to review and strengthen our disaster prevention, including related arrangements, education and training.



Comprehensive Emergency drill at the Kawasaki Plant



Comprehensive emergency drill at the Himeji Plant



Comprehensive Emergency drill at the Suita Research Center



Strengthening a culture of “safety prioritization”

Safety is not what someone ensures for you but what you need to consider and secure for yourself. We believe that in order to strengthen a culture of safety prioritization, it is vital that we be aware of the above and reflect this awareness in our organizational and individual behavior.

Both of our plants are undertaking unique efforts to strengthen a culture of safety prioritization. For example, employees at our Himeji Plant conducted self checks of fundamental safety behavior, and employees at our Kawasaki Plant undertook safety behavior check activities.

Preventing accidents caused by a loss of collective memory

To show our determination never to forget the accident in 2012 and our resolve never to let such an accident happen again, we held a Safety Oath Ceremony in front of the Safety Oath Monument at the Himeji Plant in fiscal 2021, renewing our commitment to continually improving our safety competency.



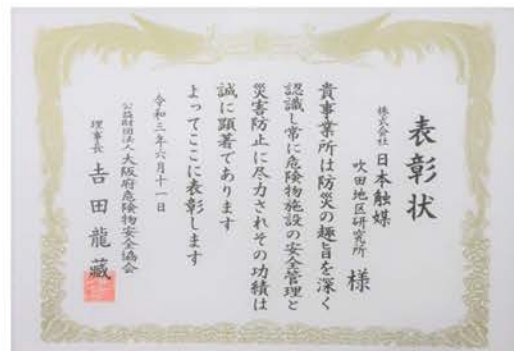
Safety Oath Ceremony

Commendations

At the Hyogo High-Pressure Gas Safety Managers' Convention of the Hyogo High-Pressure Gas Safety Organization, an employee of our Himeji Plant received the Chairman's commendation as an excellent high-pressure gas safety manager. The Osaka Association for Safety of Hazardous Materials commended the Suita Research Center for its safety management and accident prevention at hazardous material facilities.



Receiving award at the Hyogo High- Pressure Gas Safety Managers' Convention



Commendation certificate from the Osaka Association for Safety of Hazardous Materials

Definitions

HAZOP (Hazard and Operability Study)

A safety evaluation method for systematically evaluating the adequacy of safeguards in plants and eliminating latent risks in plants through comprehensive detection.

HMI (Himeji Manufacturing Innovation) activities

These activities advance improvement and innovation at the Himeji Plant.

TPM (Total Productive Maintenance) activities

These improvement activities seek to realize production methods that pursue the highest overall efficiency in production systems.

Occupational Safety and Health

Toward achieving the target of zero industrial injuries (including contractors), we implement activities to ensure occupational safety and health, including improving the working environment, reducing risk factors, and creating pleasant workplaces.

- RC Policy
- RC Promotion Organization

Basic Approach on Occupational Safety and Health

We promote occupational safety and health activities to prevent workplace injuries and health problems, ensure the safety and health of our employees, and create a comfortable work environment.

Ensuring Continuous Improvement of Occupational Safety and Health

We have been continuously improving our occupational safety and health based mainly on our Occupational Safety and Health Management System (OSHMS). In addition, we are striving to reduce industrial injuries by systematically implementing various basic safety initiatives, including “kiken yochi (KY)” risk prediction, “hiyari hatto” near miss and “5S” campaigns, as well as by conducting a variety of education and training courses. In the event of an occupational injury, we conduct an in-depth investigation of the cause and formulate countermeasures at the department where the injury occurred, which are then evaluated by the Safety and Health Committee from the standpoint of both labor and management to prevent recurrence and similar injuries.

Risk assessment

In accordance with the Occupational Safety and Health Management System, we have been undertaking task risk assessment to reduce or eliminate the sources of risks. Moreover, we are systematically implementing risk assessments for chemicals handled at each worksite and working to decrease risks.

Basic safety initiatives

In an effort to prevent industrial injuries, we are committed to daily safety initiatives targeting work-related risks. Specifically, we remain focused on our kiken yochi (KY) or “risk prediction” campaign before work, our hiyari hatto practice of collecting reports on “close-call” incidents, and our “5S” campaign in the workplace. To maintain and enhance sensitivity to danger, we conduct KY training and KY workshops on a periodic basis, with the aim of improving the level of our daily safety activities. We are also working to familiarize ourselves with basic safety behavior: (1) Think before you act; (2) Pointing and calling; and (3) Hold the handrail when stepping on stairs, by putting up posters and providing related education, thereby helping to prevent industrial injuries.



On-site training sessions

Aiming to improve sensitivity to risks hidden in plant operations, we offer experiential training in hanging in a full harness safety belt and ascending and descending rope ladders, and hands-on training in removing hose couplers and sampling.



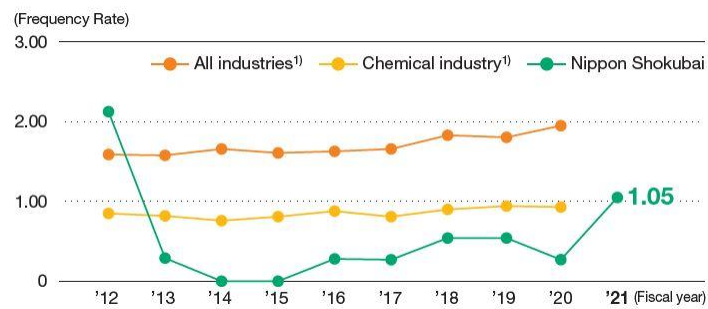
Hands-on training in sampling

Occurrence of industrial injuries

In fiscal 2021, we experienced four injuries with loss of workdays and four injuries without loss of workdays. Our contractors experienced one injury with loss of workdays and four injuries without loss of workdays.

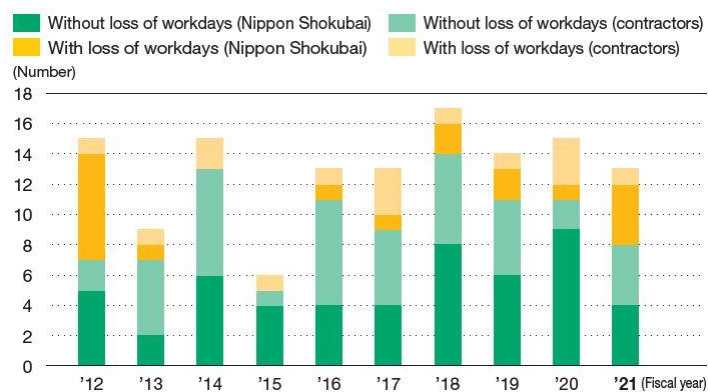
In recent years, industrial injuries have occurred frequently among young workers at Nippon Shokubai, while they have occurred frequently among less-experienced workers at our contractors. We are therefore enhancing safety education for young or less-experienced workers to raise their safety awareness.

Trends in Frequency Rate of Injuries with Loss of Workdays



Note: Frequency rate: The number of casualties in industrial injuries per million working hours
 1) Source: "Survey on Industrial Accidents" by the Ministry of Health, Labour and Welfare

Trends in Total Number of Industrial Injuries (with Loss of Workdays and without Loss of Workdays)



Addressing the health issues of company retirees

Since our company was established, we have never manufactured products containing asbestos; however, we have used insulation and sealing materials that contained asbestos.

For this reason, we support our retirees by offering consultations on health issues and providing health check-ups to those who request them.

Information regarding these services is posted on our [website](#) .

Definitions

KY Campaign (risk prediction campaign)

This campaign is intended to prevent injuries by highlighting, at meetings before work, the risk factors (unsafe behaviors and unsafe conditions) that remain hidden in work practices and by implementing measures to address them.

Near miss (hiyari hatto, HH)

Even where no accidents have occurred in day-to-day operations, we monitor workers' experiences of "near misses" or "scares" in order to clarify why such events occur and how we can avoid them. From the results, we can adopt safety measures applicable to both facilities and actions.

5S Campaign

This campaign promotes the 5 "S" practices, which can be translated as sort, set in order, shine, standardize and sustain.

Chemical Safety

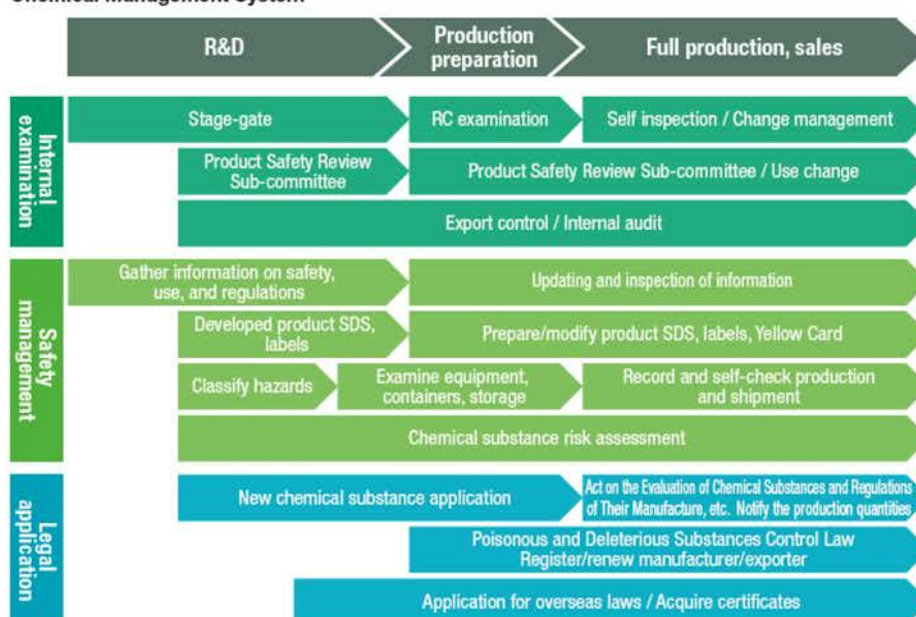
Toward achieving the goal of zero legal and social problems related to chemical substances throughout the lifecycle of products, we are committed to the proper management of chemicals through initiatives including complying with laws and regulations and providing related information.

- RC Policy
- RC Promotion Organization

Comprehensive Management of Chemical Substances throughout the Product Lifecycle

Toward achieving the goal of zero legal and social problems related to chemical substances throughout the lifecycle of products, Nippon Shokubai is committed to the proper management of chemicals and implements a variety of initiatives, including upgrading our internal systems to comply with laws and regulations related to chemical products, and providing customers with information on relevant laws and regulations as well as product safety information.

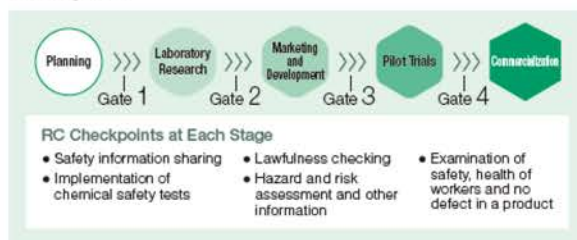
Chemical Management System



Ensuring the safety of new products

We have introduced a gate system at each stage from R&D to commercialization. We apply our technical expertise to examine the safety of chemical products throughout the product lifecycle and determine at each stage whether to proceed to the next stage.

Gate System



Product safety initiatives

We prepare GHS-compliant SDSs, warning labels, and Yellow Cards and provide information to customers while providing training sessions for our employees.



Sample SDS



Sample warning label

Establishment of a chemical substance management system

We have created a comprehensive chemical substance management system that provides centralized management of various types of information such as hazard and regulation for chemicals, raw materials, and products, and we are operating this system for broad applications, such as risk assessments, the issuance of SDS, and responding to customers' requests for the survey of chemical substances contained in our products. We are also continuously committed to developing new functions, including automatic production of GHS labels, as well as maintaining and improving the system functions with updated information.

Accommodating chemical registration requirements within and outside Japan

In collaboration with specialized institutions and our Group companies outside Japan, we are responding appropriately to laws and regulations, including the Act on the Evaluation of Chemical Substances and Regulations of their Manufacture, etc.

and the Industrial Safety and Health Act in Japan, as well as TSCA in the United States and REACH in Europe.

To enhance the employees' legal knowledge regarding chemical management regulations and

awareness of compliance with laws, we hold regular education programs on laws and meetings to explain new systems.

Moreover, in cooperation with an organization in which we are a member, we actively respond to risk assessments by governmental agencies inside and outside Japan, including information provision to the agencies.

Addressing import/export controls

To ensure legal compliance regarding imports and exports, we have streamlined our process for strengthening company regulations, keeping our employees informed about whether a product has been subject to import/export restrictions and improving our shipping management system for coordination with our enterprise resource planning (ERP) backbone accounting system. We also conduct regular internal training. In the internal audit we conduct every year, it was confirmed that there were no problems with exports between January and December, 2021.

Promoting a voluntary initiative of the JCIA

We participate in GPS/JIPS, a voluntary initiative for strengthening chemical management promoted by the Japan Chemical Industry Association (JCIA), which prepares and releases a safety summary to the public.

Definitions

GHS

An abbreviation for Globally Harmonized System of Classification and Labeling of Chemicals, GHS reflects the physical, health and environmental hazards of chemicals determined in accordance with international standards. Under this system, chemical products identified as presenting a hazard are categorized according to international standards and displayed on containers and in the respective SDS. Countries around the world have also introduced this system on the recommendation of the United Nations. This system is enforced in Japan through the Industrial Safety and Health Act.

SDS (Safety Data Sheet)

The Safety Data Sheet lists a chemical's properties as well as data on its hazards, applicable laws, proper handling and transportation requirements, and specific emergency response measures in a prescribed format. We prepare an SDS for each of the products we manufacture and develop and provide them to our customers. We are implementing a system for distributing these documents to all employees through our chemical substance management system.

Yellow Card

The yellow card is a unique initiative in Japan, which lists a product's hazards, first aid procedures in an accident, and emergency contact information. As part of its promotion of RC, JCIA prepares and manages guidelines on the procedures for preparing a yellow card in order to strengthen first aid measures in the event of an accident. Carriers transporting dangerous goods are encouraged to carry a yellow card to report information about the cargo to the fire brigade in the event of an accident.

Quality

Our basic policy related to quality is to provide products and services that fully satisfy our customers while earning their trust. We also work to maintain or improve our quality levels.

- [RC Policy](#)
- [RC Promotion Organization](#)

Ensuring Continuous Improvement of Quality

Customer satisfaction initiatives

All our plants and all Group companies both inside and outside of Japan engaged in manufacturing have introduced quality management systems. We implement our quality assurance initiatives from the customer's perspective from the product development stage through manufacturing and delivery.

We are dedicated to the continuous improvement of our quality management system to ensure our customers are satisfied with the stable high quality of our products and services.



Quality control convention

Promoting initiatives to address quality issues

We respond quickly to any complaints or inquiries from customers concerning our products. At the same time, we prevent quality issues from occurring through company-wide distribution of case studies. Cases of complaints and issues that occurred in fiscal 2021 were shared at meetings of the department managers, where permanent measures were taken. The information on quality complaints and issues are also distributed to our Group companies in Japan, with the aim of preventing similar quality problems.

Initiatives toward gaining greater public trust

We have established quality management systems that ensure the safety and reliability of our products. The quality assurance department of our Head Office has conducted quality audits of our plants and Group companies to check the quality assurance systems and the status of quality management at all production sites.

In quality audits for fiscal 2021, a Lot traceability exercise was used to check whether countermeasures against past quality issues were taken on an ongoing basis.

These audits did not reveal any problems that were considered to constitute non-conformance. We will conduct quality audits on a continual basis to check that measures to meet customer requests and countermeasures against past quality issues are taken properly.

Introducing products with halal certification

Parts of Southeast Asia, most notably Malaysia and Indonesia, are home to many Muslims, and demand for halal-certified ingredients and production processes from food-related businesses has been increasing. In response to this situation, we have acquired halal certification for products for which acquisition of the certification is strongly urged by customers. Specifically, in 2014, the Himeji Plant acquired halal certification for organic acids (maleic anhydride, succinic acid, and disodium succinate), and Sino-Japan Chemical Co., Ltd. acquired halal certification for some products. In 2015, the Himeji Plant acquired halal certification for sodium polyacrylate (AQUALIC™ H series), too. Furthermore, PT. Nippon Shokubai Indonesia (NSI) acquired halal certification for all products in 2019. With these certifications, we can expect further expansion of demand for these products in Southeast Asia. We will make continuous efforts to provide prosperity and comfort to people and society by responding to the needs of society.

Note: Examples of products for which the Nippon Shokubai Group has acquired halal certification

(as of April 1, 2022)

Succinic acid, Disodium succinate,

Maleic anhydride,

AQUALIC™ FH (Food additive),

AQUALIC™ MH (Feeding stuff additive)

and AQUALIC™ IH (Industry),

and All products produced at NSI

- Acrylic acid (AA)
- Acrylates (AES)
- Superabsorbent polymers (SAP)



NSI Halal certification

Definitions

Halal Certification

A certification with religious relevance, granted by the relevant organizations when certain standards are satisfied, for products and services targeted at Muslim customers.

Supply Chain Management

In our supply chain, from the procurement of raw materials to the manufacture, sale, use, and disposal of products, we are promoting various sustainable procurement initiatives with the aim of putting into practice our Group Mission “TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology”.

Sustainable Procurement Policy

We recognize our suppliers as important partners, and we will build a relationship of mutual understanding and trust with them. We will also conduct fair and impartial business transactions in compliance with laws and regulations and with high ethical standards for the sustainable development of both parties.

With the cooperation of our suppliers, we will also promote sustainable procurement initiatives that take human rights and environmental preservation into consideration.

CSR Procurement Guidelines

We are committed to sustainable procurement in order to fulfill our social responsibility throughout the supply chain, and we believe that the understanding and cooperation of our suppliers are indispensable in promoting such efforts. Based on this belief, we have compiled a set of CSR Procurement Guidelines that we would like our suppliers to work on together with our Group companies. We ask our business partners to understand these guidelines and take action accordingly.

[CSR Procurement Guidelines](#) 

Green Procurement Initiatives

We promote initiatives to ensure supplies of safe and reliable products throughout the entire supply chain, from procurement of raw materials to manufacture and sales of products. In accordance with our regulations for green procurement management, we have independently assigned substances

that are regulated or highly hazardous to two categories: “prohibited substances” and “restricted substances.” We are promoting the development of green products and the procurement of raw materials with low environmental impact while controlling the inclusion of such substances in our products. For information transmission sheets, we have introduced chemSHERPA*.

*chemSHERPA: This shared system for transmitting information about chemicals contained in products to supply chains was developed under the leadership of the Ministry of Economy, Trade and Industry in Japan. Full-scale utilization began in April 2018.

Responsible Procurement of Minerals Policy

To fulfill our social responsibilities, we continue to confirm that we do not procure so-called conflict minerals*. We continuously monitor the actual situations at our suppliers, and stop procurement promptly if the use of conflict minerals is discovered.

*Gold (Au), tantalum (Ta), tungsten (W), tin (Sn), and cobalt (Co) are mined under conditions of conflict, human rights violations, etc. and sold in the Democratic Republic of Congo and its surrounding countries, and CAHRAs (Conflict and High Risk Areas). Risks include Annex II risks of the OECD Guidance and global environmental impacts.

Conduct of CSR Supplier Survey

We recognize that the understanding and cooperation of our suppliers is indispensable in order to enhance sustainability throughout supply chain. Therefore, we have been conducting CSR questionnaire-type survey to our suppliers. By asking them to reply to the questionnaire, we confirm whether they conduct business activities in accordance with our “CSR Procurement Guidelines”. We will continue to strengthen cooperation with our suppliers and promote sustainable procurement initiatives.

Initiatives to Promote Responsible Procurement

We endeavor to steadily respond to human rights, labor practices, health and safety, environment and Fair Operating Practices in Nippon Shokubai and our group companies, while we also implement a variety of initiatives to ensure responsibility on the supply chain. We utilize Supply Chain Ethical Information Sharing Platform, such as Sedex*¹ and EcoVadis*² to disclose sustainability information. We have acquired RSPO*³ (Roundtable on Sustainable Palm Oil) certification.

*1 An online platform is organized by non-profit organization Sedex, for storing and accessing data regarding ethical and responsible business practices. Enterprises in the global 35 industries, including food, automobile, cosmetics and amenity over 180 countries and regions, have joined Sedex.

*2 The supply chain ethical information sharing platform is operated by the French CSR rating agency EcoVadis. The platform is used by over 100,000 multinational companies in about 175 countries.

*3 RSPO stands for Roundtable on Sustainable Palm Oil, a non-profit organization promoting the sustainable production and use of palm oil.

Logistics Initiatives

We have commissioned Nisshoku Butsuryu Co., Ltd. to handle all our logistics operations. To ensure the safety and quality of our logistics tasks, they cooperate closely with the Environmental Safety and Quality divisions of both our Himeji and Kawasaki Plants, where we work diligently to prevent logistics accidents. With the aim of minimizing damage should an accident occur during product shipment, we periodically conduct drills to respond to accidents on transportation routes. Moreover, in support of the White Logistics movement promoted mainly by the Ministry of Land, Infrastructure, Transport and Tourism toward the realization of sustainable logistics, we made a White Logistics declaration in April 2020, and we have been implementing relevant activities.



Training for accidents during product transportation



CSR Procurement Guidelines

Based on our Group Mission "TechnoAmenity - Providing prosperity and comfort to people and society, with our unique technology", we are engaged in business activities to contribute to the achievement of a sustainable society.

In our procurement activities, we strive to fulfill our social responsibilities throughout the supply chain and to ensure sustainable procurement, and we believe that the understanding and cooperation of our suppliers are indispensable in promoting such efforts.

Based on this belief, we have compiled a set of CSR Procurement Guidelines that we would like our suppliers to work on together with our Group companies. We ask our business partners to understand these guidelines and take action accordingly.

1. Compliance

(1) Observance of the relevant national and local laws, ordinances, and regulations and business ethics

We will observe the relevant laws, ordinances and regulations in the countries and regions where we do business. We will behave with integrity, fairness, good will, in a self-directed fashion, and law-abiding spirit.

(2) Prevention, early detection and correction of misconduct

For the prevention, early detection and correction of misconduct, we will establish a system that allows concerned parties who become aware of misconduct to report it directly. In doing so, we will protect the confidentiality of whistleblowers and treat them fairly so that they will not be disadvantaged.

2. Fair and honest business dealings

(1) Fair disclosure of information

We disclose timely and accurate information about ourselves in accordance with the relevant legislation, and we are transparent in our explanations.

(2) Fair and free dealings

We will observe the relevant laws, ordinances, and regulations concerning fair and free competition and business activities in other countries and regions where we do business. We will avoid any conduct which restricts free and fair market competition (abuse of market dominant position, cartel, and unfair trade practice) in every business activity including sales, procurement, research and development, and manufacturing, in order to ensure free and fair business activities.

(3) Prevention of bribery and corruption

- a. We will not commit any violation of anti-bribery laws of any country, including making inappropriate payoff, offering or promising to pay money/anything of value, to public officials.

- b. We will not aid, abet or authorize any of such illegal conduct by any third party.
- c. We will not provide with or accept any entertainment and gifts, which go beyond the bounds of socially accepted limits, to/from clients, customers and other business partners.

(4) Respect for trade-related laws and ordinances

- a. In trading raw materials and products, we will follow proper trade procedures in accordance with the relevant laws and ordinances and will not trade in contraband.
- b. We will not export technology that will be used as information, materials, or products in the production of weapons of mass destruction that would interfere with the preservation of international peace and safety, including nuclear, chemical, and biological weapons.

(5) Responsible procurement

Because our business activities are dependent on the cooperation of the many people and companies in our supply chain, we will promote responsible procurement practices and engage in transactions that are honest and proper.

(6) Respect for and use of intellectual property

- a. We will strive to protect our intellectual property rights and use them in effective way, as we believe that patents, trademarks, designs, knowhow, trade secrets, and publications are key corporate assets and the source of our competitive strength.
- b. In the manufacture and sale of our products, research and development, provision of service, and other business activities, we will respect the intellectual property rights of others and will not infringe on them.

(7) Information security

- a. We will closely control access to our information assets and data systems in order to prevent unauthorized access, loss, leaks, manipulation, destruction, and hacking.
- b. We will formulate measures to counter threats to our computer network and endeavor to minimize any damage to ourselves and others.

(8) Management of confidential information

- a. We will strictly manage the confidential information of others obtained in the course of business.
- b. We will not allow unauthorized disclosures or leaks, and we will not permit such information to be used for purposes other than those intended, nor will we permit viewing by uninvolved parties.

(9) Protection of personal information and privacy

We respect individuals' privacy and collect personal information to the extent necessary and appropriate. We will also strictly manage and protect personal information collected.

(1 0) Dealing with antisocial forces

- a. We will have absolutely nothing to do with antisocial forces that threaten public order and safety or the stable business of the company, whether it is through business relations, money laundering, and other means of providing profits to those involved in such forces.
- b. We will take a firm stance in rejecting improper demands from antisocial forces.

3 . Respect for human rights

(1) Respect for human rights

- a. We will respect everyone's human rights and will not engage in any conduct that unfairly discriminates or harms the dignity of an individual, regardless of the reason.
- b. We will prevent human rights violations by respecting international human rights standards, and the laws and ordinances of each country and region. In the event of a violation, we will respond appropriately and with fairness.
- c. Recognizing that our business activities have an impact on human rights, we will not provide products to firms or groups that commit or promote human rights violations, and we will not take part in purchasing any products or services from such firms or groups.

(2) Prohibition against forced labor and child labor

Under no circumstances will we ever engage in forced labor or child labor, and we will not allow forced labor or child labor to take place in our supply chain.

(3) Prohibition against discrimination

Under no circumstances will we ever engage in discrimination based on gender, age, nationality, race, ethnicity, social status, place of origin, beliefs, creed, religion, physical characteristics, sexual orientation, sexual identity, or disease or disability.

(4) Prohibition against harassment

Under no circumstances will we ever engage in sexual harassment, abuse of power, pregnancy discrimination, or other discriminatory behaviors against another person, or do anything that threatens them or makes them uncomfortable, regardless of whether such threat is physical or emotional.

4 . Fair hiring, labor, and compensation

(1) Payment of appropriate wages and proper management of working hours

We will maintain sound hiring and labor practices, and our treatment of employees regarding wages, work hours, vacations, and the like will conform to the relevant laws and ordinances of the respective countries and regions.

(2) Respect for employees' freedom of association and collective bargaining rights

In accordance with the relevant laws and ordinances of each country and region, we will respect the right to form or participate in labor unions, the right to engage in collective bargaining, and the right to assemble peacefully.

(3) Provision of equal opportunities

We will treat everyone fairly in accordance with their work skills and performance.

5. Preserving the environment

(1) Harmony with the global environment

Based on the desire to leave a better global environment to the next generation, we are controlling emissions of hazardous materials and are taking initiatives to address environmental issues.

(2) Climate change initiatives

Besides reducing emissions of carbon dioxide and other greenhouse gases in our business activities, we are helping to reduce emissions throughout the supply chain, thus contributing to bringing about carbon neutrality.

(3) Efficient use of resources

We are actively involved in resource and energy conservation, waste reduction, and recycling efforts, so that our limited and precious resources can be used more efficiently.

(4) Preserving biodiversity

Recognizing that our business activities do affect biodiversity, we are promoting a deeper understanding and awareness of preserving biodiversity and biodiversity-friendly programs.

6. Ensuring product safety and quality

(1) Providing safe and reliable products and services

We will comply with the laws and regulations of the countries and regions in which we operate, and provide products and services that meet the quality standards of our customers.

(2) Providing safe, high-quality information

When providing products and services, we will properly furnish the necessary information regarding quality and safe usage in an easily understandable way.

(3) Proper management of chemical substances

- a. In the manufacturing process, we will manage chemical substances specified by the laws and regulations of the country in which they are located.
- b. We will manage chemical substances specified by the laws and regulations of each country for all products.

7. Security, disaster prevention, and safety and health

(1) Comprehensive process safety and disaster prevention

We will comply with laws, regulations, and rules related to security and disaster prevention, and thoroughly implement various measures to prevent accidents and disasters that may affect the environment and society, such as explosions, fires, and leaks of hazardous substances. We will also prepare an emergency response plan and make it known to all employees throughout the workplace.

(2) Workplace health and safety

- a. We will strive to eliminate work-related disasters, and we will observe all laws, ordinances, and regulations concerning workplace health and safety.
- b. We will consider our health as well as the health of those working with us and will strive to maintain and enhance a workplace environment in which everyone can be assured of safety and comfort.

(3) Business continuity

We will establish operational structures, including a business continuity plan (BCP), to ensure early recovery in the event of natural disasters such as earthquakes and floods, infectious diseases, cyber attacks, and other threats.

8. Contributing to local communities

(1) Respecting local culture

We will respect the natural surroundings, culture, traditions, and customs of the countries and regions where we do business, and we will work together with local communities and contribute to their development.

End

Established in March 2022

Nippon Shokubai CSR Procurement Guidelines

Social Contribution

Social Contribution Policy

Guided by the Nippon Shokubai Group Mission of “TechnoAmenity: Providing prosperity and comfort to people and society with our unique technology,” we have adopted a number of social initiatives. These include maintaining clear and open communication with the public as a good corporate citizen that preserves the natural environment, works in harmony with local communities and develops the next generation.

Preservation of the Natural Environment

With the cooperation of local governments, NPOs, and other organizations, we are engaged in preserving biodiversity through employee volunteer activities to protect and restore the natural environment.

Biodiversity Preservation

Working in Harmony with Local Communities

Believing that establishing a relationship of trust with local community residents is crucial for stable business operation at each plant, we take various opportunities to communicate with them.

Cleanup campaign

We conduct periodic cleanups of the environs around all our plants as a local beautification initiative. Each year in the Suita district, we participate in the Kanzaki River Cleanup Activities, which is implemented as part of the Adopt-a-River Program promoted by the Osaka prefectural government.



Sweet potato harvest party

We grow sweet potatoes in the potato fields we have created in the green yard of the Himeji Plant. Every year, we invite neighborhood kindergartners and nursery school children to enjoy harvesting our crop of sweet potatoes. We have been holding this activity since 1971, as it has helped us forge strong ties in the community. In fact, some of the children who harvested potatoes in the past are now employed with us.*



*In FY2021, we refrained from inviting the children to the plant as a means of preventing the spread of COVID-19 infections. Instead, we harvested the sweet potatoes ourselves and gave them out to nursery schools in the area.

Dialogue with local communities

Nippon Shokubai participates in the community dialogue undertaken by the JCIA's Responsible Care Committee and introduces the corporate RC initiatives to the participants from neighborhood associations, local governments, NPOs, industry organizations and companies in areas in which our plants are located. Through such communication, we aim to enhance mutual understanding.

In FY2021, to prevent the spread of COVID-19, the event was held in the Kawasaki area in writing.



Community Dialogue Proceedings

Developing the Next Generation

We host and participate in various events to help people become familiar with chemical technologies. We also provide internship opportunities to have work experience through hands-on training. Through initiatives that take advantage of our unique business characteristics, we are contributing to development of children who will form the next generation.

Children's Chemistry Experiment Show

We have been presenting an Experiment Show titled “Superabsorbent Polymer, the Mysterious Powder.” The children enjoy experimenting with chemistry and show great interest.*

*In the FY2020 and FY2021, the activities were not held to prevent infection from spreading of COVID-19.



Kawasaki Science Challenge

The number of participants in our company's booth

- FY2019 : Chemistry Day Kids' Chemistry Experiment Show 2019 (about 450 people), The 16th Kawasaki Science Challenge (about 430 people), Science Booth Exhibit (about 330 people)
- FY2018 : Chemistry Day Kids' Chemistry Experiment Show 2018 (about 400 people), Science Booth Exhibit (about 280 people)
- FY2017 : Chemistry Day Kids' Chemistry Experiment Show 2017 (about 300 people), Science Booth Exhibit (about 250 people)

Hosting internship trainees

We provide internship opportunities for students from technical colleges.



Internship

Governance

Corporate Governance



Compliance



Risk Management



Intellectual Property Activities



Corporate Governance

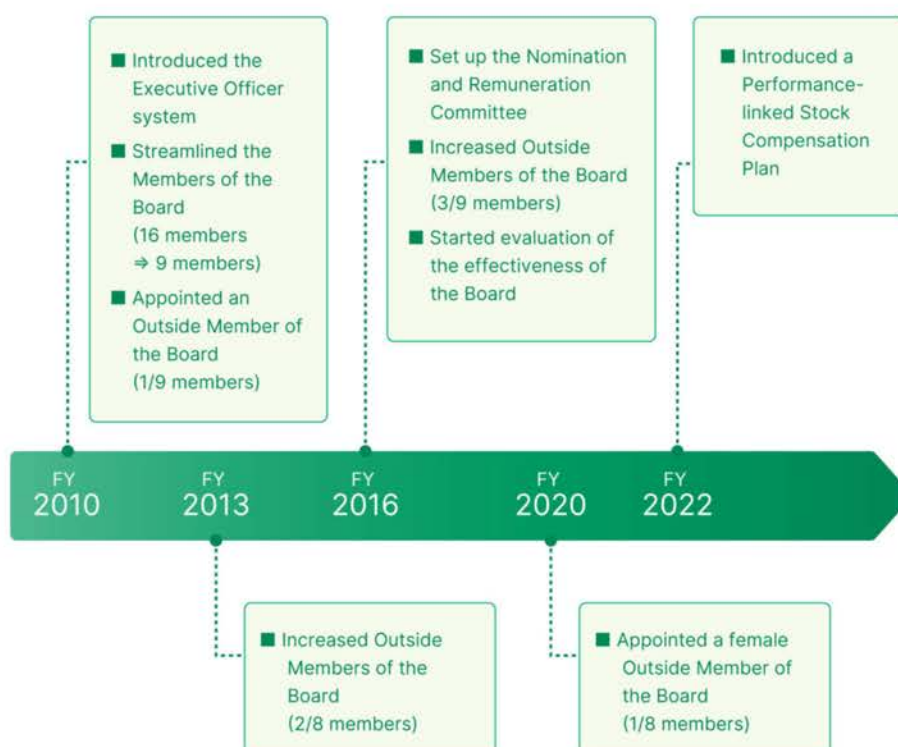
We are working on continuously improving our systems and their operation to strengthen and enhance a viable corporate governance.

Our basic approach to corporate governance

Under the Nippon Shokubai Group Mission "TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology," we will increase our corporate value and achieve sustainable growth.

We consider viable corporate governance to be essential and have adopted initiatives toward that end. We ensure the rights and equality of our shareholders and maintain an open dialogue, collaborate with various stakeholders as appropriate, disclose information as appropriate and ensure transparency, ensure that the roles of Board Meeting and management teams relate to the appropriate execution of duties, ensure appropriate supervision of the execution of these duties and strengthen and enhance our internal control systems.

Initiatives to strengthen governance



Our basic information on corporate governance system

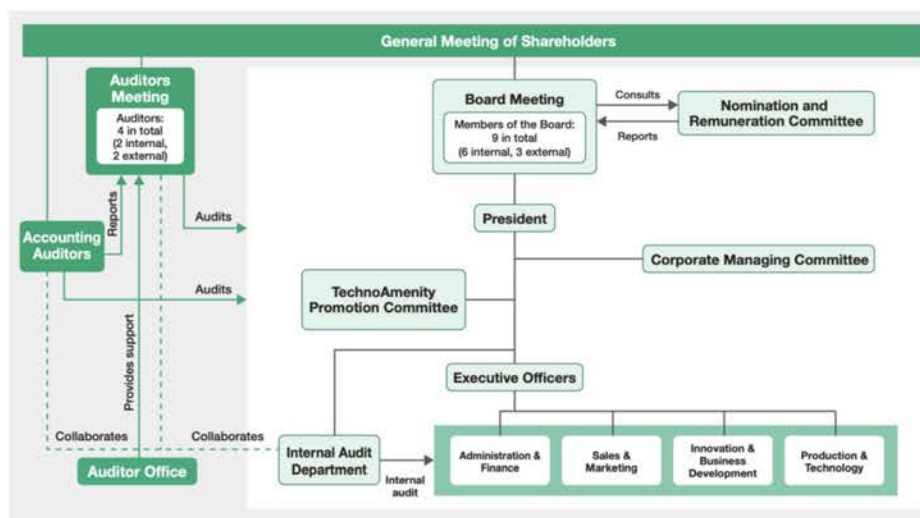
(as of June 21, 2022)

Main Items	Content
Institutional design	Company with an Auditors Meeting
Number of Members of the Board	9 (6 internal, 3 external), including a female Member of the Board
Ratio of Outside Members of the Board (Independent Officers)	33%
Term of office of the Members of the Board	1 year
Number of Board Meetings (FY2021) (Average attendance rate of Outside Members of the Board / External Statutory Corporate Auditors each)	15 times (100% / 96.7%)
Number of Statutory Corporate Auditors	4 (2 internal, 2 external)
Ratio of External Statutory Corporate Auditors (Independent Officers)	50%
Term of office of Statutory Corporate Auditors	4 years
Number of Auditors Meeting (FY2021) (Average attendance rate of External Statutory Corporate Auditors)	15 times (96.7%)
Executive Officer system	Have already been introduced
Number of Executive Officers	17, including 5 who concurrently serve as a Members of the Board
Advisory body to the Board Meeting	Nomination and Remuneration Committee established

*The ratios are rounded to the nearest unit.

Our corporate governance system

(as of June 21, 2022)



Roles and Functions of Various Bodies and Committees

Board Meeting

Comprising nine Members of the Board, including three Outside Members of the Board, Board Meeting reports, deliberates and resolves important matters related to business operations, and supervises the business operations of each Member of the Board. In general, meetings are convened monthly under the chairmanship of a Member of the Board selected from members who are not executive officers by a resolution of the Board Meeting. Four Statutory Corporate Auditors, including two External Statutory Corporate Auditors, also attend to give advice and state their opinions when necessary.

Corporate Managing Committee

Comprising the President and executive officers, this committee generally convenes once a month to deliberate on items related to the implementation of basic policies and important management issues. Among proposals discussed by the Corporate Managing Committee, important issues are forwarded to Board Meeting for consideration.

Auditors Meeting

Comprising four Statutory Corporate Auditors, including two External Statutory Corporate Auditors, the Auditors Meeting usually convenes monthly, submits reports and engages in discussions and deliberations on important matters related to audits.

Accounting Auditor

Nippon Shokubai is audited by Ernst & Young ShinNihon LLC.

Nomination and Remuneration Committee

An advisory body to the Board Meeting, this is a voluntary organization comprising three or more Members of the Board (including a majority of Outside Members of the Board). It advises on the election/dismissal of the President and Representative Member of the Board, as well as draft nominations of candidates for Members of the Board and Statutory Corporate Auditor positions and on remuneration and bonuses for Members of the Board.

Nomination and Remuneration Committee members

Name	Status	Attendance rate
Kazuhiro Noda	President and Representative Member of the Board	—
Tetsuo Setoguchi	Outside Member of the Board	100%
Miyuki Sakurai	Outside Member of the Board	100%

*Mr. Kazuhiro Noda assumed the post as of June 21, 2022.

TechnoAmenity Promotion Committee

We promote sustainability activities based on our belief that promoting sustainability means implementing the Nippon Shokubai Group Mission “TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology.” We consider promotion of sustainability activities as a core theme of our corporate management. The Committee is responsible for deciding policies and strategies therefor, providing instructions to relevant departments, and evaluating the results of the activities.

Internal Audit Department

The Internal Audit Department (6 members) conducts audits on the effectiveness and efficiency of each operational process, compliance and other matters from a standpoint independent from other executive sections, with the aim of enhancing internal control of the Company. It also works in cooperation with Statutory Corporate Auditors and the Accounting Auditor through mutual exchange of information and opinions, thereby improving internal audit operations.

Policy and procedure for election/dismissal of Members of the Board and Statutory Corporate Auditors

The Board Meeting, including three independent Outside Members of the Board, decides on election/dismissal of management executives and nomination of candidates for Members of the Board and Statutory Corporate Auditors, taking thoroughly into account their expertise, experience, achievements, qualities, abilities, personalities and the like. Also, the Nomination and Remuneration Committee, a voluntary organization consisting mainly of independent Outside Members of the Board, has been established to receive advice on election/dismissal of the President and Representative Member of the Board and nomination of candidates for Members of the Board and Statutory Corporate Auditors, thereby ensuring transparency and fairness in election/dismissal of the President and Representative Member of the Board, and nomination of candidates for Members of the Board and Statutory Corporate Auditors.

Specialty and Experience of Members of the Board

	Name	Corporate management	Internationality	Sustainability	Compliance / Governance	Finance / Accounting	Production technology / R&D	Sales and marketing	Other
Members of the Board	Yujiro Goto	●		●			●		
	Kazuhiro Noda	●	●			●			
	Jiro Iriguchi	●					●		● (DX)
	Kuniaki Takagi		●		●	●			
	Masahiro Watanabe	●						●	● (SCM)
	Yasutaka Sumida			●			●		● (Intellectual property)
Outside Members of the Board	Shinji Hasebe						●		● (Academic experience)
	Tetsuo Setoguchi	●	●					●	
	Miyuki Sakurai				●				● (Internal control / Audit)

Evaluation of the effectiveness of the Board Meeting

1.Process of evaluating the effectiveness of the Board Meeting

Based on the results of analysis and evaluation of responses to a questionnaire, which was distributed to all Members of the Board and Statutory Corporate Auditors, an opinion exchange meeting was held between all independent Outside Members of the Board and the President and

Representative Member of the Board. Based on these, the evaluation of the effectiveness of the Board Meeting was summarized at a Board Meeting.

2.Items for improvement

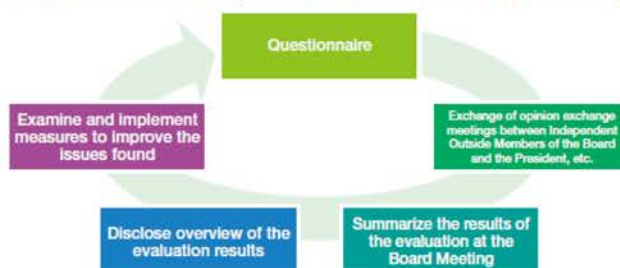
The items for improvement identified in the evaluation of the previous fiscal year are as follows:

- Further improvement in explanations, discussions and material/document preparation to aid the understanding of the entire business, including “issues, risks and outlook” and “business environment and strategies including review of decision making in the past” of Group companies and in existing and new fields, which have been continuously conducted
- Holding opinion-exchange meetings for outside officers
- Enhancement of training programs

3.Evaluation results and initiatives for the future

- It was confirmed that all the systems that support the composition, operation, deliberations/reports and the supervision of business execution of the Board Meeting were functioning properly and that the effectiveness of the Board Meeting was ensured. It was also confirmed that the measures taken based on the items for improvement identified in the evaluation of the effectiveness of the Board Meeting in the previous fiscal year had been implemented properly.
- To steadily achieve “stronger corporate governance” to foster sustainable growth and enhance medium- to long-term corporate value set forth in “TechnoAmenity for the Future-I” launched in fiscal 2022, we are currently making the following efforts:
 - Enhancing discussions regarding management policies and strategies at the Board Meeting
 - Strengthening the supervisory/advisory function for business execution
 - Developing a skill matrix for the Board Meeting
 - Nurturing candidates for an officer position in charge of sustainable growth

● Process of evaluating the effectiveness of the Board Meeting



Outline of the executive remuneration system

1.Basic Policy

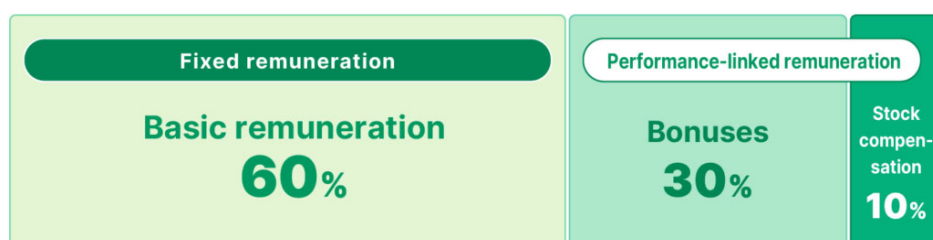
- To have Members of the Board put the Company’s mission into practice and provide an incentive to sustainably enhance corporate value

- To have Members of the Board share interests with shareholders according to the Company's business results and commensurate with their responsibilities
- To set the executive remuneration system at a reasonable level in light of the Company's business results, the level of employee salaries, and that of other companies
- To have the Nomination and Remuneration Committee, consisting mainly of independent Outside Members of the Board, deliberate on the matter, thereby ensuring transparency and fairness

2.Components of the Remuneration

The remuneration for Members of the Board (excluding Outside Members of the Board) consists of basic remuneration, which is fixed remuneration, and bonuses and stock compensation, which are performance-linked remuneration. Outside Members of the Board receive only basic remuneration as fixed remuneration because they oversee business operations from an independent standpoint.

The Ratio of remuneration for the Members of the Board (excluding Outside Members of the Board)



*The above ratio is only a guide and is subject to change according to the Company's business results, stock market conditions, and degrees of achievement of targets by each individual as assessed by the target management system.

Outline of remuneration

	Fixed remuneration	Performance-linked remuneration	
	Basic remuneration	Bonuses	Stock compensation
Type	Fixed remuneration	Short-term incentive	Medium- and long-term incentive
Persons to be paid	Members of the Board	Members of the Board (excluding Outside Members of the Board)	Members of the Board (excluding Outside Members of the Board)
Method of payment	Money	Money	Shares and Money
Time of payment	Monthly	Paid at a certain time after the Ordinary General Meeting of Shareholders each year	Paid upon the retirement of a Member of the Board
Description	<ul style="list-style-type: none"> • Paid based on the position and responsibilities. • The amount of remuneration for Outside Members of the Board is 	<ul style="list-style-type: none"> • Bonuses are paid according to evaluation indicators: the degree of achievement of key performance indicators (KPIs) and the degrees 	<ul style="list-style-type: none"> • Utilizing the share benefit trust mechanism for officers, payments shall be made according to the total cumulative number of performance-

	<p>determined by comprehensively considering the level of remuneration of the Company's officers, and that of other companies.</p>	<p>of achievement of targets by each individual as assessed by the target management system.</p> <ul style="list-style-type: none"> • KPIs consist of "profit before tax" and "ROA (return on assets before tax)," with achievement ratings ranging from 0 to 150%. 	<p>linked points, which are linked to the achievement level of the mid-term management plan, and fixed points, which are for the purpose of holding shares to share stock value.</p> <ul style="list-style-type: none"> • Performance-linked points and fixed points shall be granted at a ratio of 1:1. • Performance-linked points vary depending on the degree of achievement of KPI results in the final year of the mid-term management plan against the targets of the mid-term management plan set as KPIs. • KPIs consist of "operating profit" and "ROE (return on equity attributable to owners of parent)", with evaluation weights of 50% for "operating profit" and 50% for "ROE". In addition, each achievement rating shall be in the range of 0 to 150%.
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3. Process for Determining Remuneration

- The Nomination and Remuneration Committee, a voluntary advisory organization consisting mainly of independent Outside Members of the Board, has been established. The Committee deliberates on policies, systems, and issues related to the determination of remuneration for Members of the Board, as well as the appropriateness of the level of remuneration, and reports back to the Board Meeting.
- Based on the Committee's report, the Board Meeting determines the policy for determining the details of remuneration, etc. for each individual Member of the Board and details of remuneration, etc. within the framework of the amount of remuneration approved by the General Meeting of Shareholders. After the determination of the Board Meeting, the President and Representative Member of the Board is entrusted with decisions regarding the details of remuneration, excluding stock compensation, for individual Members of the Board in light of the contents of the Committee's report.

Aggregate Amount of Remuneration to Members of the Board and Statutory Corporate Auditors

Category of positions	Aggregate amount of remuneration (million yen)	Aggregate amount of remuneration by type (million yen)				Number of persons to be paid (persons)
		Fixed remuneration	Performance-linked remuneration			
			Basic remuneration	Basic remuneration	Bonuses	
Members of the Board (Outside Members of the Board)	369 (36)	181 (36)	38 (－)	150 (－)	188 (－)	10 (3)
Statutory Corporate Auditors (External Statutory Corporate Auditors)	64 (18)	64 (18)	－ (－)	－ (－)	－ (－)	4 (2)
Total (Outside Officers)	433 (54)	245 (54)	38 (－)	150 (－)	188 (－)	14 (5)

*1 The above total amount of remuneration, etc., is based on the executive remuneration system prior to the introduction of the Performance-linked Stock Compensation Plan, etc., which was resolved at the 110th Ordinary General Meeting of Shareholders.

*2 The number of persons and the amounts of remuneration above include one Member of the Board who stepped down during the fiscal year 2021.

*3 The total amount of remuneration, etc., includes bonuses of 150 million yen for Members of the Board which was resolved at the 110th Ordinary General Meeting of Shareholders.

Cross shareholding

Under the Nippon Shokubai Group Mission "TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology," we are willing to further advance our contributions to industry and society. To this end, Nippon Shokubai, as a chemical manufacturer, with a view to continuously improving its corporate value, believes that long and stable relationships of trust with business partners are important in development, production, sales and other activities. Based on this belief, we own shares of our partners for the purpose of cross share holding when deemed necessary.

Each year, the Board Meeting, including three independent Outside Members of the Board, comprehensively examines all the listed shares we own by issue in light of the above purpose, taking into consideration the capital costs, and confirms the importance of the shareholding. We sell shares if it is judged no longer important to hold such shares.

In fiscal 2021, we sold all shares of seven issues and a part of the shares of four issues. As a result, the number of issues of crossheld shares as of March 31, 2022 decreased from 70 as of the end of the fiscal year before the introduction of the Corporate Governance Code (March 31, 2015), to 38.

Compliance

We are committed to various group-wide initiatives intended to further improve and strengthen compliance systems in accordance with our Corporate Code of Compliance.

Compliance structure

In order to reinforce our compliance, our Board Meeting has established group-wide compliance policies, “Code of Conduct” and the other codes of conduct, and the executive officer responsible for compliance decides medium- to long-term and annual action plans.

Under the supervision of the executive officer responsible for compliance, the Legal Department promotes various group-wide initiatives for the entire Group including affiliated companies.

Activities to improve compliance

Level-based training

We provide systematic training courses on corporate ethics for employees, targeting three specific employee levels, new employees, promoted mid-level employees, and promoted managerial employees, according to their respective job positions and roles.

Awareness initiatives in each workplace

To ensure the penetration and adoption of compliance throughout the workplace, we conduct training courses on compliance for each workplace once every six months. This training has become a forum for active discussion within each workplace based on a training program that covers violations of corporate ethics and legal violations and similar actions prepared based on situations that actually arose at other companies. We have been implementing this program also at our Group companies in Japan.

Awareness activities on our portal

Our corporate intranet hosts a portal titled “Understandable Corporate Ethics.” It lists various kinds of manuals including the manuals as to basic information on contracts, competition laws in various countries, observance of anti-bribery laws and subcontract law, links to websites covering related laws and regulations, and a FAQ page. This site presents the latest available information, and it is updated whenever the relevant laws and regulations are revised.



Portal “Understandable Corporate Ethics”

Whistleblower System

As part of our initiatives to implement compliance, we have established the Whistleblower System under which facts or suspicions of compliance violations inside the company can be freely reported to the internal reporting desks we have set up both inside and outside the company. The intention of the whistleblower is always respected in determining whether or not to disclose the details of the information and the name of the whistleblower, with the objective of protecting the whistleblower.

Compliance with Anti-Bribery Laws and Competition Laws

For Compliance with Anti-Bribery Laws (Nippon Shokubai Group's Code of Conduct)

Nippon Shokubai Group Companies strictly prohibit any corruptions in breach of applicable laws in our business activities.

In order to express and give shape of such group policy, we adopt the group code of conduct, which all the individuals working for Nippon Shokubai Group Companies should comply with.

[Group Code of Conduct](#) 

For Compliance with Competition Laws (Nippon Shokubai Group's Code of Conduct)

Nippon Shokubai Group Companies will conduct all business transactions based on free and fair market competition principle.

In order to express and give shape of such group policy, we adopt the group code of conduct, which all the individuals working for Nippon Shokubai Group Companies should comply with.

For Compliance with Anti-Bribery Laws (Nippon Shokubai Group's Code of Conduct)

For the past several years, the relevant authorities all around the world have shown their aggressive policies against corruptions. Especially, in case of bribery of foreign public officials, huge amount of fines are imposed on the companies and individuals in violation of the relevant laws and some of such individuals are punished by imprisonment. News report on mass-media about the violation of laws would lead to deterioration of reputation of the company and have severe adverse effect on the company's business activities.

In our business activities, our decision should always be made based upon "what is right and what is wrong" rather than the profit/loss perspective. The fair business transactions and activities respecting all relevant laws and rules will, in the long run, contribute to Nippon Shokubai Group Companies' acquisition of reliance from stakeholders and increase of business interests.

Nippon Shokubai Group Companies strictly prohibit any corruptions in breach of applicable laws in our business activities. In order to express and give shape of such group policy, we adopt the following group code of conduct, which all the individuals working for Nippon Shokubai Group Companies should comply with.

Nippon Shokubai Group Companies, in our business activities,

Will not commit any violation of anti-bribery laws of any country, including making inappropriate payoff, offering or promising to pay money/anything of value, to public officials or will not make any illegal facilitation payment, and

Will not aid, abet or authorize any of such illegal conduct by any third party, and

Will not provide with or accept any entertainment and gifts, which go beyond the bounds of socially accepted limits, to/from clients, customers and other business partners.

Needless to say, any individual within Nippon Shokubai Group Companies in violation of the relevant laws or our code of conduct will be subject to strict discipline procedures in accordance with the relevant organization's internal rules, which might lead to dismissal or other discipline actions.

For the individuals working for Nippon Shokubai Co., Ltd., we prepared and published the Compliance Manual on Anti-Bribery Laws, which contains the summary explanation of the relevant laws, points of attention and practical measures to take so that they could refer to in doing business. The president of each Nippon Shokubai Group Companies are hereby requested to comply with our group code of conduct, prepare compliance manual taking the relevant circumstances of their own into consideration and take necessary actions to prevent the violation, including provision to their employees with educational opportunity and/or implementation of audit.

Masanori Ikeda
President
Nippon Shokubai Co., Ltd.

**For Compliance with Competition Laws
(Nippon Shokubai Group's Code of Conduct)**

In recent years, aggressive prosecution has been seen in the field of Competition Laws (Japanese Anti-Monopoly Law and equivalences in other countries) in many foreign countries or regions. More and more competent authorities are developing enforcement regimes, and leading authorities impose severe sanctions such as huge amount of fines and imprisonment.

An investigation or prosecution in one country in violation of Competition Laws relating to global business activities can lead to another enforcement in other countries and spread throughout an industry, as the international auto parts cartel case illustrates. Therefore, Nippon Shokubai Group Company should build up the compliance program as a team, irrespective of the country of its establishment.

Nippon Shokubai Group is aiming to be “A company that everybody can be proud of”; “A company that people can be proud to work for.” To achieve this aim, a decision in our business activities should always be made based upon “what is right and what is wrong” rather than the profit/loss perspective.

Nippon Shokubai Group Companies will conduct all business transactions based on free and fair market competition principle. In order to express and give shape of such group policy, we adopt the following group code of conduct, which all the individuals working for Nippon Shokubai Group Companies should comply with.

We will avoid any conduct which restricts free and fair market competition (abuse of market dominant position, cartel, and unfair trade practice) in every business activity including sales, procurement, research and development, and manufacturing, in order to ensure free and fair business activities.

Needless to say, any individual within Nippon Shokubai Group Companies in violation of the Competition Laws or our code of conduct will be subject to strict discipline procedures in accordance with the relevant organization's internal rules, which might lead to dismissal or other discipline actions.

All individuals are hereby requested to comply with our group code of conduct and follow internal rules in relevant organization, to prevent the violation of the Competition Laws.

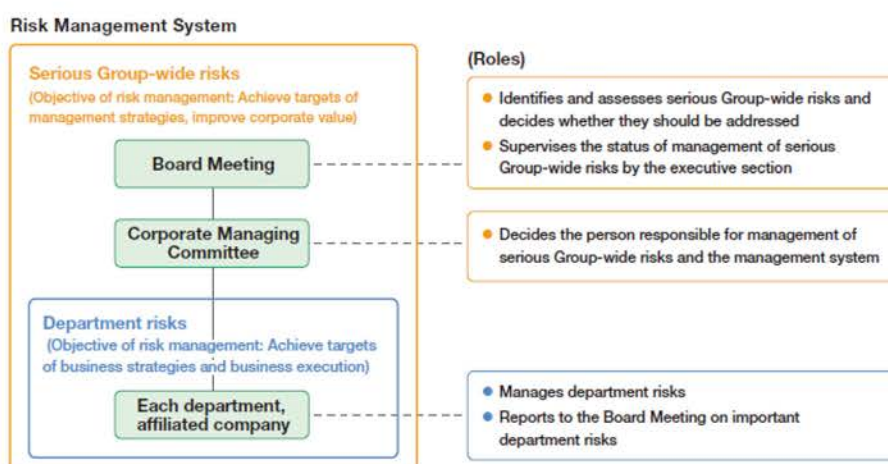
Masanori Ikeda
President
Nippon Shokubai Co., Ltd.

Risk Management

We are implementing a variety of measures to accurately identify and respond to risks that accompany changes in the management and business environments and that could impact the long-term continuation of our Group, in accordance with our Risk Management Regulations.

Risk Management System

At the Nippon Shokubai Group, we classify various internal and external risks that threaten our Group into “serious Group-wide risks” and “department risks,” and we develop a risk management system appropriate for each risk category, thereby maintaining and improving our corporate value. For “serious Group-wide risks,” potential serious risks underlying execution of the Group’s management strategies, sustainable improvement of corporate value, and acquisition of trust from stakeholders are subject to risk management, and we have established a system in which the Board Meeting identifies and assesses the risks, decides whether they should be addressed, and supervises the status of risk management by the executive section. For “department risks,” on the other hand, potential risks underlying execution of business strategies or business operations by each department or affiliated company are subject to management, and we have established a system in which each department or affiliated company is responsible for risk management, thereby promptly responding to the risks. With these two systems, we aim to develop and enhance the Group-wide risk management system, which includes our affiliated companies.



Business Continuity Management (BCM)

We have established a Business Continuity Plan (BCP) with countermeasures for earthquakes, influenza outbreaks and other incidents. We are working to strengthen Business Continuity Management (BCM) by regularly reviewing our BCP, as well as by implementing earthquake response training and other measures.

Assuming a large-scale earthquake taking place when few people are working at the office due to the shift to teleworking as a measure against the COVID-19 infection, we revised the system to respond to large-scale earthquakes in FY2020. We are communicating the revision details and providing related education for employees, with the aim of enhancing preparedness for occurrence of a large-scale earthquake.

Response to the COVID-19 pandemic

In response to the global spread of COVID-19 infection, Nippon Shokubai has set up a company-wide COVID-19 task force led by the President. To ensure employees' health and continue business activities, various measures have been implemented, including familiarizing employees with infection preventive measures, promoting staggered working hours and teleworking using the flextime program, recommending online meetings, and suspending business trips.

Intellectual Property Activities

Consistent with our recognition of intellectual property as essential assets of the company and sources of competitive advantages, our business and research and development divisions are united in their promotion of intellectual property strategies to expand and strengthen existing businesses and create new businesses. We also minimize intellectual property risks by conducting patent surveys as we engage in development and move toward commercialization to show our respect for the intellectual property of other companies and avoid unnecessary disputes.

Promoting inventions

We file high-quality patent applications, and retain useful patent for the new technology we produce in the course of carrying out everyday research and production activities by actively working to unearth new inventions, regularly holding patent review meetings, and applying for patents with the intent to obtain and take advantage of the exclusivity they grant. We also strategically apply for defensive patents and seek to acquire rights with an eye on competitors in our core businesses to ensure our advantages in terms of patents and otherwise quickly adapt to changes in the circumstances surrounding intellectual property.

Furthermore, we are working to reform and improve awareness of intellectual property among our people in research and development sections by training them in intellectual property, specifically through internal patent seminars featuring original training and workshops for R&D agreements to more effectively engage in co-creation with outside entities.

Employee Inventions

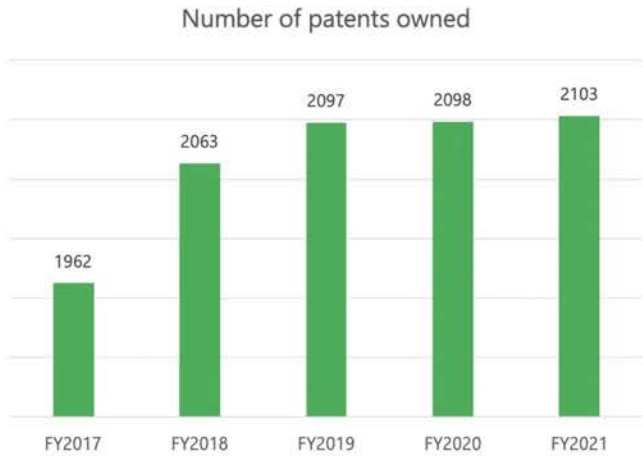
To incentivize our employees to create intellectual property, we established an employee invention program under which we compensate employees for inventing things worthy of applying for patents. We also give rewards to the inventors of inventions that contribute significantly to the company. Since instituting the invention reward program in 2001, we have received and approved more than 10 applications. We also give an annual award to employees who contribute to effective intellectual property activities.

Licensing

Although the foremost use of our proprietary technology is to develop our own business, we also license it to other companies based on our business and research and development strategies—the aim is to leverage the resulting synergy into further development of the company. We also work to increase business opportunities and enhance our presence by proactively introducing the best technology from outside the company and stepping up collaboration with partner companies.

Number of patents owned

We take steps to improve our intellectual property portfolio and properly maintain patents based on research and business policies in an effort to protect the company, enhance collaboration with outside entities through open innovation, and recover research investments through licensing.



Sustainability Data

Policies



Editorial Policy



Initiatives and Organizations



Status of Certification Acquisition



ESG Data



Sustainability Library



GRI Standards Comparison Table



Policies

Group Mission Framework / Safety Philosophy

- [Group Mission Framework / Safety Philosophy](#)

Sustainability Management

- [Sustainability Policy](#)

Responsible Care

- [RC Policy](#)

Initiatives for Environment

- [Environmental Protection Policy](#)

Initiatives for Society

- [Basic policy on human rights](#)
- [D&I Promotion Policy](#)
- [Basic Approach to Safety Issues](#)
- [Basic stance on occupational safety and health](#)
- [Sustainable Procurement Policy](#)
- [CSR Procurement Guidelines](#)
- [Responsible Procurement of Minerals Policy](#)
- [Social Contribution Policy](#)

Governance

- [Our basic approach to corporate governance](#)
- [For Compliance with Anti-Bribery Laws\(Nippon Shokubai's Group Code of Conduct\)](#)
- [For Compliance with Competition Laws\(Nippon Shokubai's Group Code of Conduct\)](#)

Investor Relations

- [Disclosure Policy](#)

Other Information

- [Privacy Policy](#)
- [Cookie Policy](#)

Editorial Policy

Editorial Policy

The Nippon Shokubai Group Sustainability Website describes our initiatives to realize a sustainable society under the Nippon Shokubai Group's Mission "TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology." For the purpose of gaining the understanding of our stakeholders, we have posted details of our group's general approach to sustainability, as well as initiatives related to the environment, society, and governance.

We will periodically archive the sustainability website and record it as a sustainability report for the relevant fiscal year.

In addition, the integrated report "TechnoAmenity Report" reports on the Group's vision, strategies, and initiatives for medium- to long-term value creation. We hope that you will also read the RC Report, which introduces the details of Responsible Care activities, and the TCFD Report, which contains information based on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

Data related to the environment, society, and corporate governance are posted in the ESG Data.

- [Sustainability Library](#)
- [ESG Data](#)

Reporting Scope

Organizational boundary

"Nippon Shokubai Group" and "our Group" refer to Nippon Shokubai and its domestic and overseas consolidated subsidiaries, and "Nippon Shokubai", "the company" and "we" refer to Nippon Shokubai alone.

Reporting targets for Responsible Care activities are as follows.

NIPPON SHOKUBAI CO., LTD.

Osaka Office

Tokyo Office

Himeji Plant

Kawasaki Plant

Suita Research Center

Himeji Research Center

Group Companies in Japan

NIPPOH CHEMICALS CO., LTD.

TOKYO FINE CHEMICAL CO., LTD.

CHUGOKU KAKO CO., LTD.

NIPPON POLYMER INDUSTRIES CO., LTD.

NISSHOKU TECHNO FINE CHEMICAL CO., LTD.

NIPPON NYUKAZAI CO., LTD.

Nisshoku Butsuryu Co., Ltd.

Group Companies outside Japan

Nippon Shokubai America Industries, Inc.

PT. NIPPON SHOKUBAI INDONESIA

NIPPON SHOKUBAI EUROPE N.V.

SINGAPORE ACRYLIC PTE LTD

NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD.

SINO-JAPAN CHEMICAL CO., LTD.

- [Business Locations](#)

Reporting Period

April 1, 2021 to March 31, 2022

Some topics in and after April 2022 are also contained in the website.

Reporting Cycle

Annually

Publication date

Publication date : January 2023

Previous publication: November 2021 (as TechnoAmenity Report / RC Report)

Next scheduled publication: October 2023

Referenced Guidelines

- Global Reporting Initiative (GRI) Sustainability Reporting Standards
 - [GRI Standards Comparison Table](#)
- Task Force on Climate-related Financial Disclosures (TCFD)
 - [TCFD Report](#)

- Environmental Reporting Guidelines 2018, Environmental Accounting Guidelines 2005, Ministry of the Environment, Government of Japan
- Environmental Accounting Guidelines for the Chemical Industry, Japan Chemical Industry Association and Japan Responsible Care Council
- IIRC (International Integrated Reporting Council) International Integrated Reporting Framework

Third-party Verification

The calculation of GHG emissions has undergone third-party verification.

- [Third-party Verification Report on Greenhouse Gas Emissions](#) 

Contact

Contact



Greenhouse Gas Emissions Verification Report

To: NIPPON SHOKUBAI CO., LTD.

1. Objective and Scope

Japan Quality Assurance Organization (hereafter “JQA”) was engaged by NIPPON SHOKUBAI CO., LTD. (hereafter “the Company”) to provide an independent verification on “FY2021* calculation report of GHG emissions” (hereafter “the Report”). The content of our verification was to express our conclusion, based on our verification procedures, on whether the Report was correctly measured and calculated, in accordance with the “Calculation manual of GHG emissions” (hereafter “the Rule”) developed by the Company. The purpose of the verification is to evaluate the Report objectively and to enhance the credibility of the Report.

*The fiscal year 2021 of the Company ended on March 31, 2022.

2. Procedures Performed

JQA conducted verification in accordance with “ISO 14064-3” for GHG emissions, and with “ISAE3000” for energy consumption. The scope of this verification assignment covers Scope 1, 2 as GHG (CO₂, CH₄, N₂O, CFC, HCFC, HFCs and PFCs) emissions and energy consumption. The verification was conducted to a limited level of assurance and quantitative materiality was set at 5 percent of the total emissions in the Report. The organizational boundaries of this verification include ten production sites and four non-production sites of the Company and its group companies in Japan. Our verification procedures included:

- Performing validation of integrated functions to check the Rule prior to the on-site assessment.
- Holding on-site verification at the Company’s two domestic sites. The location of sampling sites for on-site assessment was selected by the Company.
- On-site assessment to check the Report’s boundaries, source of GHG, monitoring points, monitoring and calculation system and its controls.
- Vouching: Cross-checking the GHG emissions and energy consumption data against evidence for all sampling sites.

3. Conclusion

Based on the procedures described above, nothing has come to our attention that caused us to believe that the statement of the information regarding the Company’s FY2021 GHG emissions and energy consumption in the Report, is not materially correct, or has not been prepared in accordance with the Rule.

GHG Emissions	Scope1	Scope2	Total
	657 thousand t-CO ₂ e	153 thousand t-CO ₂	810 thousand t-CO ₂ e

4. Consideration

The Company was responsible for preparing the Report, and JQA’s responsibility was to conduct verification of GHG emissions and energy consumption in the Report only. There is no conflict of interest between the Company and JQA.



Sumio Asada, Board Director

For and on behalf of Japan Quality Assurance Organization

1-25, Kandasudacho, Chiyoda-ku, Tokyo, Japan

September 5, 2022

Initiatives and Organizations

Major initiatives which we support and organizations which we belong to

United Nations Global Compact (UNGC)

The UNGC is a sustainability initiative that brings together the United Nations and the private sector (companies and organizations) to build a healthy global society.

Each company and organization acts as a good member of society by exercising responsible and creative leadership, and takes voluntary initiatives to achieve sustainable growth.

Signatory companies and organizations are required to continue their efforts to achieve ten principles in the areas of the protection of human rights, the elimination of unfair labor practices, environmental responsibility, and anti-corruption, based on the commitment of their top management themselves to these principles.




The Ten Principles of the UNGC

Human Rights	Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and Principle 2: make sure that they are not complicit in human rights abuses.
Labour	Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining; Principle 4: the elimination of all forms of forced and compulsory labour; Principle 5: the effective abolition of child labour; and Principle 6: the elimination of discrimination in respect of employment and occupation.
Environment	Principle 7: Businesses should support a precautionary approach to environmental challenges; Principle 8: undertake initiatives to promote greater environmental responsibility; and

	Principle 9: encourage the development and diffusion of environmentally friendly technologies.
Anti-Corruption	Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

Related links

- [United Nations Global Compact \(UNGC\)](#) 
- [News Release \(October 26th, 2020\) – Nippon Shokubai Signs United Nations Global Compact](#)
- [Sustainability Management](#)


Task Force on Climate-Related Financial Disclosures (TCFD)

The TCFD is a task force established by the Financial Stability Board (FSB), an international organization of central banks and financial regulators from major countries and regions around the world.

It provides a framework for disclosing information on climate change-related risks and opportunities.



Related links

- [Task Force on Climate-Related Financial Disclosures \(TCFD\)](#) 
- [News Release \(March 30th, 2021\) – Nippon Shokubai to Support the Recommendations of the Task Force on Climate-related Financial Disclosures \(TCFD\)](#)
- [Tackling Climate Change](#)
- [TCFD Reports](#)

Responsible Care Global Charter

Responsible Care (RC) is an activity in which companies handling chemical substances engage in dialogue and communication with society by voluntarily ensuring the environment, safety, and health in all processes from development, manufacturing, distribution, use, and final consumption to disposal and recycling of chemical substances, and by disclosing the results of these activities.

The International Council of Chemical Associations (ICCA) published the Responsible Care Global Charter, which was revised in 2014 to promote activities internationally.



President's signature on the RC Global Charter (Revised 2014 version)

Related links

- [Responsible Care Initiatives](#)

Japan Clean Ocean Material Alliance (CLOMA)

The CLOMA is a platform in Japan to accelerate innovation by strengthening collaboration among a wide range of stakeholders across industries to solve the global issue of marine plastic waste.



Related links

- [Japan Clean Ocean Material Alliance \(CLOMA\)](#) [↗](#)

Long-range Research Initiative(LRI)

The LRI is an international initiative that provides long-term support for research on the effects of chemical substances on human health and the environment. The Japan Chemical Industry Association (JCIA) is promoting this initiative in Japan.

Related links


- [Long-range Research Initiative\(LRI\)](#) [↗](#)

Keidanren Initiative for Biodiversity Conservation

This is an initiative by the Japan Business Federation (Keidanren) to “realize a sustainable society through building a society in harmony with nature”.

The initiative has seven action guidelines, including management responsibility, voluntary efforts, and partnership.

Related links

- [Keidanren Initiative for Biodiversity Conservation](#) 
- [Biodiversity Preservation](#)

“White Logistics” Movement

This is an initiative promoted by the Ministry of Land, Infrastructure, Transport and Tourism, and other ministries. This movement aims to ensure the stable logistics necessary for people’s daily lives and industrial activities as well as to contribute to the growth of the economy by improving productivity and logistics efficiency of truck transportation and achieving a “white” working environment for drivers and other workers.

Related links

- [“White Logistics” Movement](#) 
- [Logistics Initiatives](#)

Challenge Initiative for 30% of Executives to Be Women by 2030 – #Here We Go 203030 –

The initiative was announced by the Japan Business Federation (Keidanren) in 2021.

The initiative aims to “increase the proportion of women on the board of directors to at least 30% by 2030” and is working to “promote the active participation in the workforce by diverse people” in order to achieve inclusion and co-creation of diverse value that are the keys to sustainable capitalism.

Related links

- [Challenge Initiative for 30% of Executives to Be Women by 2030 – #Here We Go 203030 –](#) 

EcoVadis

EcoVadis is an online platform for supply chain sustainability performance management operated by French company EcoVadis. The platform serves over 100,000 companies in some 175 countries.

Related links

- [Initiatives to Promote Responsible Procurement](#)

Sedex

Sedex, a non-profit organization, operates an online platform for companies to store and view data on ethical and responsible business practices. The platform is adopted in 180 countries and regions across 35 industry sectors, including food, agriculture, financial services, clothing, garments, packaging, and chemicals.

Related links

- [Initiatives to Promote Responsible Procurement](#)

Roundtable on Sustainable Palm Oil (RSPO)

The RSPO is a not-for-profit organization to promote the sustainable production and use of palm oil. It unites a wide range of stakeholders involved in palm oil and facilitates them working together to consider the impact of palm oil on the environment and human rights through two systems: certification of sustainable production and certification of systems for the proper distribution of certified palm oil.

Related links

- [Roundtable on Sustainable Palm Oil \(RSPO\)](#) [🔗](#)
- [Initiatives to Promote Responsible Procurement](#)

Other major organizations which we belong to

- Japan Business Federation (Keidanren)
- Japan Chemical Industry Association (JCIA)
- Japan Petrochemical Industry Association (JPCA)
- Kansai Chemical Industry Association (Kankakyo)
- Battery Association for Supply Chain (BASC)
- Clean Fuel Ammonia Association (CFAA) etc.

Status of Certification Acquisition

Nippon Shokubai Group has obtained the following certifications for the environmental and quality management system.

Environmental management system

As of October, 2022

NIPPON SHOKUBAI CO., LTD.

Name of manufacturing site	Applicable standard	Registration number	Acquisition date
Kawasaki Plant	ISO 14001:2015	JCQA-E-0157	June 2000
Himeji Plant	ISO 14001:2015	JCQA-E-0273	July 2001

Group Companies in Japan

Name of group company	Applicable standard	Registration number	Acquisition date
NIPPOH CHEMICALS CO., LTD.	ISO 14001:2015	C2021-05330	February 2007
CHUGOKU KAKO CO., LTD.	Eco-Action 21	0001926	October 2007
NIPPON NYUKAZAI CO., LTD. Kawasaki Plant	ISO 14001:2015	JCQA-E-0466	May 2003
NIPPON NYUKAZAI CO., LTD. Kashima Plant	ISO 14001:2015	JCQA-E-0908	October 2011
TOKYO FINE CHEMICAL CO., LTD.	Eco-Action 21	0003559	April 2009
NISSHOKU TECHNO FINE CHEMICAL CO., LTD.	ISO 14001:2015	EMS517539	August 2007
NIPPON POLYMER INDUSTRIES CO.,	ISO 14001:2015	JCQA-E-0477	June 2003

LTD.			
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Group Companies outside Japan

Name of group company	Applicable standard	Registration number	Acquisition date
SINGAPORE ACRYLIC PTE LTD.	ISO 14001:2015	10410011	January 2007
PT. NIPPON SHOKUBAI INDONESIA	ISO 14001:2015	118973	November 2002
Nippon Shokubai America Industries, Inc.	ISO 14001:2015	141948.00	March 2020
NIPPON SHOKUBAI EUROPE N.V.	ISO 14001:2015	10469752	September 2004
NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD.	ISO 14001:2015	CN041409	November 2007
SINO-JAPAN CHEMICAL CO., LTD.	ISO 14001:2015	TW15/10557	June 2006

Quality management system

As of October, 2022

NIPPON SHOKUBAI CO., LTD.

Name of manufacturing site	Applicable standard	Registration number	Acquisition date
Kawasaki Plant	ISO 9001:2015	JCQA-0235	July 1997
Himeji Plant	ISO 9001:2015	JCQA-0515	July 1999

Group Companies in Japan

Name of group company	Applicable standard	Registration number	Acquisition date
NIPPOH CHEMICALS CO., LTD	ISO 9001:2015	C2021-05329	December 2001
CHUGOKU KAKO CO., LTD	ISO 9001:2015	C2020-02368	September 2002
NIPPON NYUKAZAI CO., LTD.	ISO 9001:2015	JCQA-0377	October 1998

TOKYO FINE CHEMICAL CO., LTD.	ISO 9001:2015	JCQA-1580	December 2005
NISSHOKU TECHNO FINE CHEMICAL CO., LTD	ISO 9001:2015	FM 81150	March 2004
NIPPON POLYMER INDUSTRIES CO., LTD.	ISO 9001:2015	JCQA-1038	January 2002

Group Companies outside Japan

Name of group company	Applicable standard	Registration number	Acquisition date
SINGAPORE ACRYLIC PTE LTD	ISO 9001:2015	10350850	May 2006
PT. NIPPON SHOKUBAI INDONESIA	ISO 9001:2015	118972	November 2001
Nippon Shokubai America Industries, Inc.	ISO 9001:2015	111948.00	March 2020
NIPPON SHOKUBAI EUROPE N.V.	ISO 9001:2015	10469752	October 2004
NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD.	ISO 9001:2015	CN0414098	December 2007
SINO-JAPAN CHEMICAL CO., LTD.	ISO 9001:2015	TW15/10538	July 2000

ESG Data

The data sheets include environmental data, social data, corporate governance data.

FY2021

FY2021 ESG Data Sheet (FY2017-FY2021) Last updated : July 1, 2022



Back numbers

FY2020 ESG Data Sheet (FY2016-FY2020)



FY2019 ESG Data Sheet (FY2015-FY2019)





ESG Data Sheet

FY2021

[Aggregation Period]

April 1 – March 31 of each fiscal year, and March 31 of each fiscal year

[Last Updated]

July 1st, 2022

Environment

[Scope of Data Aggregation]

"Nippon Shokubai"

"Nippon Shokubai (Production Sites)"

"Group Companies in Japan"

NIPPON SHOKUBAI CO., LTD.

NIPPON SHOKUBAI CO., LTD. Himeji Plant / Kawasaki Plant

NIPPOH CHEMICALS CO., LTD. / TOKYO FINE CHEMICAL CO., LTD. / CHUGOKU KAKO CO., LTD. /

NIPPON POLYMER INDUSTRIES CO., LTD. / NISSHOKU TECHNO FINE CHEMICAL CO., LTD. /

NIPPON NYUKAZAI CO., LTD. / Nishoku Butsuryu Co., Ltd.

"Group Companies outside Japan"

Nippon Shokubai America Industries, Inc. / PT. NIPPON SHOKUBAI INDONESIA / NIPPON SHOKUBAI EUROPE N.V. /

SINGAPORE ACRYLIC PTE LTD / NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD. /

SINO-JAPAN CHEMICAL CO., LTD.

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Aspect	Classification		Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021	
Prevention of global warming	Energy consumption (crude oil equivalent)		Nippon Shokubai	1,000 kL	195	198	191	197	184	
			Nippon Shokubai (Production Sites)		187	190	182	189	175	
			Group Companies in Japan		27	27	26	27	28	
			Group Companies outside Japan		86	91	89	85	88	
	Energy intensity		Nippon Shokubai (Production Sites)	L/tons-production volume	98	104	102	109	98	
	GHG emissions		Nippon Shokubai + Group Companies in Japan	1,000 tons-CO ₂ e	—	—	—	—	657	
			Nippon Shokubai + Group Companies in Japan	1,000 tons-CO ₂ e	—	—	—	—	153	
			Nippon Shokubai + Group Companies in Japan	1,000 tons-CO ₂ e	—	—	—	—	810	
			Scope 3 (Category No.1-7, 12, 15) *2	Nippon Shokubai	1,000 tons-CO ₂ e	3,984	3,887	3,774	3,637	3,862
	CO ₂ emissions		Scope 1	Nippon Shokubai	1,000 tons-CO ₂	—	582	590	584	605
				Group Companies in Japan		—	34	33	34	40 ^{*3}
				Group Companies outside Japan		—	154	165	164	168
			Scope 2	Nippon Shokubai	1,000 tons-CO ₂	—	180	141	143	128
				Group Companies in Japan		—	29	27	25	25
				Group Companies outside Japan		—	189	172	174	181
			Scope 1 + 2	Nippon Shokubai	1,000 tons-CO ₂	797	763	731	727	733
				Group Companies in Japan		63	63	60	59	65 ^{*3}
				Group Companies outside Japan		302	344	337	337	349
	CO ₂ emissions intensity		Nippon Shokubai (Production Sites)	tons/tons-production volume	0.411	0.407	0.402	0.411	0.401	
	Energy source CO ₂ emissions intensity		Nippon Shokubai (Production Sites)	tons/tons-production volume	0.194	0.199	0.192	0.205	0.182	
	CH ₄ emissions *1		Nippon Shokubai	tons-CO ₂ e	—	—	—	—	326	
			Group Companies in Japan		—	—	—	—	4,535	
	N ₂ O emissions *1		Nippon Shokubai	tons-CO ₂ e	—	—	—	—	199	
			Group Companies in Japan		—	—	—	—	52	
	Amount of calculated leakage of fluorocarbons		Nippon Shokubai	tons-CO ₂ e	6,162	1,704	3,194	3,122	7,069	
			Group Companies in Japan *1		—	—	—	—	223	
Raw material	Purchased raw materials		Nippon Shokubai	1,000 tons	—	1,067	1,032	969	1,047	
Environmental conservation for logistics	CO ₂ emissions attributable to domestic logistics		Nippon Shokubai	1,000 tons-CO ₂	14.7	14.4	14.2	13.9	14.8	
	CO ₂ emissions intensity attributable to domestic logistics		Nippon Shokubai	kg-CO ₂ /1,000 ton-km	59.0	58.6	58.5	59.0	58.7	

Environment
(2/3)

Aspect	Classification	Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Water	Water withdrawal	Surface water (rivers, lakes, etc.)	Nippon Shokubai	—	0.0	0.0	0.0	0.0
			Group Companies in Japan	—	0.0	0.0	0.0	0.0
			Group Companies outside Japan	—	0.0	0.0	0.0	0.0
		Groundwater	Nippon Shokubai	—	0.0	0.0	0.0	0.0
			Group Companies in Japan	—	3.3	3.3	3.3	3.3
			Group Companies outside Japan	—	0.0	0.0	0.0	0.0
		Sea water	Nippon Shokubai	—	0.0	0.0	0.0	0.0
			Group Companies in Japan	—	0.0	0.0	0.0	0.0
			Group Companies outside Japan	—	46.4	45.4	45.8	17.1
		Third-Party sources (tap water, industrial water, etc.)	Nippon Shokubai	—	15.0	14.9	14.7	14.8
			Group Companies in Japan	—	2.6	2.6	2.7	2.6
			Group Companies outside Japan	—	2.2	2.1	2.1	2.6
		Total	Nippon Shokubai	15.8	15.0	14.9	14.7	14.8
			Group Companies in Japan	5.6	5.8	5.9	6.0	6.0
			Group Companies outside Japan	46.5	48.6	47.4	47.9	19.8
		Water Stress sites *4	Global	—	0	0	0	0
		Consumption in water-stressed regions	Global	—	0.0	0.0	0.0	0.0
	Water discharge	Surface water (rivers, lakes, etc.)	Nippon Shokubai	—	0.0	0.0	0.0	0.0
			Group Companies in Japan	—	3.9	3.9	4.0	4.0
			Group Companies outside Japan	—	0.6	0.6	0.7	0.7
		Subsurface	Nippon Shokubai	—	0.0	0.0	0.0	0.0
			Group Companies in Japan	—	0.0	0.0	0.0	0.0
			Group Companies outside Japan	—	0.0	0.0	0.0	0.0
		Ocean	Nippon Shokubai	—	7.8	7.7	7.9	8.1
			Group Companies in Japan	—	1.6	1.6	1.7	1.7
			Group Companies outside Japan	—	46.4	45.4	45.8	17.1
		Third Party Dischargers (sewage, etc.)	Nippon Shokubai	—	0.0	0.0	0.0	0.0
			Group Companies in Japan	—	0.1	0.1	0.1	0.1
			Group Companies outside Japan	—	0.2	0.2	0.2	0.2
		Total	Nippon Shokubai	8.1	7.9	7.7	8.0	8.2
			Group Companies in Japan	5.4	5.5	5.6	5.8	5.8
			Group Companies outside Japan	45.8	47.2	46.1	46.6	18.0
	Water consumption *1*5	Total	Nippon Shokubai	7.7	7.1	7.1	6.7	6.6
			Group Companies in Japan	0.2	0.3	0.3	0.2	0.2
			Group Companies outside Japan	0.7	1.4	1.3	1.3	1.7
Prevention of air and water pollution	SOx emissions	Nippon Shokubai	tons	2.8	3.5	3.5	3.7	3.1
		Group Companies in Japan	tons	1.5	1.6	1.4	1.6	1.4
	NOx emissions	Nippon Shokubai	tons	204	198	203	198	196
		Group Companies in Japan	tons	48	45	43	48	72
	Dust emissions	Nippon Shokubai	tons	6.4	6.3	6.5	5.7	7.4
		Group Companies in Japan	tons	2.3	2.2	3.3	2.1	2.1
	VOC emissions	Nippon Shokubai	tons	75	82	89	57	59
	COD emissions	Nippon Shokubai	tons	54	55	50	50	56
		Group Companies in Japan	tons	45	53	60	61	55
	Total phosphorous emissions	Nippon Shokubai	tons	2.8	2.9	2.7	2.5	2.6
	Total nitrogen emissions	Nippon Shokubai	tons	47	58	55	52	56

**Environment
(3/3)**

Aspect	Classification	Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Waste reduction	Quantity of off-site waste *6	Nippon Shokubai	1,000 tons	2.9	3.1	2.8	2.8	3.0
		Group Companies in Japan		5.5	5.6	6.0	5.5	7.0
		Group Companies outside Japan		0.9	2.6	0.7	1.6	0.9
	Quantity of recycling	Nippon Shokubai	1,000 tons	40	40	34	34	38
		Group Companies in Japan		2.3	2.6	2.2	2.3	2.2
		Group Companies outside Japan		7.8	9.3	10.3	8.6	8.7
	Quantity of final off-site landfill	Nippon Shokubai	tons	23	13	11	11	9
		Group Companies in Japan		69	60	71	78	85
		Group Companies outside Japan		296	255	240	376	442
	Quantity of final off-site landfill / Total amount of waste generated Objective: ≤0.1%	Nippon Shokubai	%	—	0.018	0.016	0.016	0.016
Chemical management	Substances subject to the PRTR law	Nippon Shokubai	tons	97	96	79	83	86
		Released into Atmosphere		48	47	41	38	40
		Released into Water		49	49	37	45	46
		Group Companies in Japan		37	39	35	34	35
Environmental accounting	Environmental protection cost (Investment)	Nippon Shokubai	million yen	821	2,403	2,960	327	105
	Environmental protection cost (Expense)	Nippon Shokubai		7,894	8,666	9,678	9,471	9,508
	Economic effect resulting from environmental protection initiatives	Nippon Shokubai		5,346	2,649	2,577	2,484	6,722
Violation of environmental laws and regulations	Fines and penalties for violations of environmental laws and regulations	Global	yen	—	0	0	0	0

*1 Added new contents

*2 Category No. 15 is not included until FY2017.

*3 Review of aggregation range

*4 To conduct water risk assessments, we used the Aqueduct Water Risk Atlas of World Resources Institute (WRI).

*5 Water consumption is calculated by subtracting water discharge from water withdrawal.

*6 The quantity of off-site waste emission is obtained by subtracting the quantity of on-site reduction, on-site recycling, on-site landfill and off-site recycling from the quantity of waste generated.

Social

[Scope of Data Aggregation]

"Nippon Shokubai"

NIPPON SHOKUBAI CO., LTD.

"Consolidated"

NIPPON SHOKUBAI CO., LTD. and its consolidated subsidiaries

(1/2)

Aspect	Classification	Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Employees	Number of employees	Number of employees	Consolidated	4,219	4,454	4,510	4,555	4,526
		Number of employees	Nippon Shokubai	2,253	2,306	2,353	2,391	2,412
		Male	Nippon Shokubai	2,069	2,114	2,156	2,185	2,197
		Female	Nippon Shokubai	184	192	197	206	215
		Percentage of female	Nippon Shokubai	8.2	8.3	8.4	8.6	8.9
	Number of managers	Number of managers	Nippon Shokubai	521	530	548	568	583
		Male	Nippon Shokubai	509	514	530	545	559
		Female	Nippon Shokubai	12	16	18	23	24
		Percentage of female	Nippon Shokubai	2.3	3.0	3.3	4.0	4.1
	Average age		Nippon Shokubai	37.8	38.0	38.3	38.5	38.7
	Length of service	Average length of service	Nippon Shokubai	16.0	16.1	16.2	16.4	16.5
		Male	Nippon Shokubai	16.1	16.3	16.4	16.6	16.7
		Female	Nippon Shokubai	14.4	13.8	14.4	14.8	14.7
	Participation rate of labor union *1		Nippon Shokubai	68.8	69.7	69.4	69.9	69.8
Employment	Number of hires	Number of new graduate hires (College graduate)	Nippon Shokubai	44	44	45	46	44
		Male	Nippon Shokubai	38	38	39	40	35
		Female	Nippon Shokubai	6	6	6	6	9
		Percentage of female	Nippon Shokubai	13.6	13.6	13.3	13.0	20.5
	Number of mid-career hires	Number of mid-career hires	Nippon Shokubai	9	13	16	13	13
		Male	Nippon Shokubai	8	7	14	12	11
		Female	Nippon Shokubai	1	6	2	1	2
		Percentage of female	Nippon Shokubai	11.1	46.2	12.5	7.7	15.4
	Number of foreign national employees		Nippon Shokubai	5	5	4	4	4
	Employment rate of persons with disabilities		Nippon Shokubai	2.2	2.0	2.2	2.3	2.2
	Re-employment	Re-employment rate of retired employees	Nippon Shokubai	83.9	85.7	87.0	89.0	88.0
	Turnover/Layoff	Turnover rate of regular employees (Personal reason)	Nippon Shokubai	1.4	1.6	1.4	1.8	2.5
Work-Life Balance	Child Care	Number of employees using child care leave (Total numbers for fiscal year)	Nippon Shokubai	24	21	23	28	23
		Male	Nippon Shokubai	2	2	3	7	8
		Female	Nippon Shokubai	22	19	20	21	15
		Number of employees using reduced working hours system for child care	Nippon Shokubai	29	27	29	27	24
		Return rate from child care leave of absence	Nippon Shokubai	100	100	97	100	96
	Nursing Care	Number of employees using nursing care leave and personal reasons of absence	Nippon Shokubai	0	1	1	1	0
	Paid leave	Average annual paid leave acquisition days per employee (Labor union member)	Nippon Shokubai	12.3	13.4	13.0	12.6	13.4
		Rate of taking annual paid leave (Labor union member)	Nippon Shokubai	66.1	71.6	69.0	67.2	71.3
		Average annual paid leave acquisition days per employee (Management)	Nippon Shokubai	9.8	11.4	10.9	10.5	11.0
		Rate of taking annual paid leave (Management)	Nippon Shokubai	49.1	57.1	54.5	52.4	55.0
		Average annual paid leave acquisition days per employee (All)	Nippon Shokubai	11.5	12.9	12.5	12.2	12.9
		Rate of taking annual paid leave (All)	Nippon Shokubai	60.7	68.1	65.6	63.8	67.3
	Working hours	Average overtime hours (Hours/Month)	Nippon Shokubai	16.1	15.8	15.4	15.3	15.3

**Social
(2/2)**

Aspect	Classification		Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Human right	Number of Child Labor and Force Labor		Consolidated	numbers	0	0	0	0	0
Human resources development	Training	Total number of hours spent on employee's training	Nippon Shokubai	hours	53,450	57,458	55,783	49,623	44,408
		Training time per employee	Nippon Shokubai		23.7	24.9	23.7	20.8	18.4
Occupational safety and health	Number of injuries with loss of workdays		Nippon Shokubai	numbers	1	2	2	1	4
			Contractors		3	1	1	3	1
	Frequency of injuries with loss of workdays		Nippon Shokubai	—	0.27	0.54	0.54	0.27	1.05
			Contractors		1.04	0.34	0.32	1.04	0.36
	Number of fatal accidents		Nippon Shokubai	numbers	0	0	0	0	0
			Contractors		0	0	0	0	0
	Ratio of plants with ISO 45001 (management systems of occupational health and safety) *2		Consolidated	%	—	—	—	38	38
Social contribution	Number of participants in company-wide RC training including safety		Nippon Shokubai	persons	—	—	—	181	187
	Expense	Amount paid for activities on social contributions	Nippon Shokubai	million yen	100	124	126	161	128
		Donation	Nippon Shokubai		42	54	54	95	64
		Expenditure for other activities on social contributions *3	Nippon Shokubai		58	70	72	66	64
	Volunteer activity	Number of participants for "Japan-China Friendship Forest Development and Global Warming Prevention"	Nippon Shokubai	persons	5*4	5*4	3*4	0*5	0*5
		Number of participants for "Contributing to Our Forests and Water Resources"	Nippon Shokubai		257	193	175	11*5	21*5
		Number of participants for "Contributing to the 'Yugawara Myriad Leaves Forest'"	Nippon Shokubai		151	103	56	0*5	11*5
		Number of participants for "Japan-Indonesia Friendship Forest of Banten Bay for Biodiversity Preservation"	Nippon Shokubai PT. Nippon Shokubai Indonesia		—	58	60	5*5	4*5
Compliance	Number of participants in the training for new employees, new middle level employees and new managers regarding compliance		Nippon Shokubai	persons	181	183	186	219	194
	Number of internal reporting		Nippon Shokubai	numbers	1	3	4	0	0
Compliance with laws and regulations	Number of violations for "For Compliance with Anti Bribery Laws in Nippon Shokubai Group's Code of Conduct"		Consolidated	numbers	0	0	0	0	0
	Fine and penalty for bribery		Consolidated	yen	0	0	0	0	0
	Number of violations for "For Compliance with Competition Laws in Nippon Shokubai Group's Code of Conduct"		Consolidated	numbers	0	0	0	0	0
	Significant violations of laws or regulations in the social and economic area besides those mentioned above		Consolidated	numbers	0	0	0	0	0
Contribution	Political Contribution		Nippon Shokubai	yen	0	0	0	0	0

*1 All applicable employees join the labor union based on the Union Shop Agreement.

*2 Ratio at manufacturing sites

*3 Expenditure for Volunteer activity, Facilities offering, Other

*4 The secretariat and NPO members performed maintenance work.

*5 Volunteer activities by employees have been suspended to prevent infection from spreading of COVID-19.
To the extent possible, we carried out activities such as on-site visits with NGO/NPO and check the report.

Corporate Governance

[Scope of Data Aggregation]

"Nippon Shokubai"

NIPPON SHOKUBAI CO., LTD.

"Consolidated"

NIPPON SHOKUBAI CO., LTD., its subsidiaries and its affiliates

Consolidated Aspect	NIPPON SHOKUBAI CO., LTD., its subsidiaries and its affiliates								
	Classification		Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Related information for management	Number of Members of the Board	Members of the Board (incl. Outside Members of the Board)	Nippon Shokubai	persons	9	9	9	8	9
		Outside Members of the Board	Nippon Shokubai		3	3	3	3	3
	Number of Members of Auditors Meeting	Statutory Corporate Auditors (incl. External Statutory Corporate Auditors)	Nippon Shokubai	persons	4	4	4	4	4
		External Statutory Corporate Auditors	Nippon Shokubai		2	2	2	2	2
	Outside Officers composition ratio of the Nominating and Remuneration Committee		Nippon Shokubai	%	66.7	66.7	66.7	66.7	66.7
	Remuneration of Members of the Board (except Outside Members of the Board)		Nippon Shokubai	million yen	391	380	334	196	333
	Remuneration of Statutory Corporate Auditors (except External Statutory Corporate Auditors)		Nippon Shokubai		48	48	47	47	46
	Remuneration of Outside Officers (except External Statutory Corporate Auditors)		Nippon Shokubai		36	35	34	35	36
	Shareholder	Voting rights for Bonus for Member of the Board		Nippon Shokubai	voting rights	Yes	Yes	Yes	—
Dividend		Interim	Nippon Shokubai	yen	75	80	90	45	80
		Annual	Nippon Shokubai		160	170	180	90	180
Dividend Payout Ratio		Japanese GAAP	Consolidated	%	26.3	—	—	—	—
		IFRS *1	Consolidated		28.2	28.4	64.7	—	30.3

*1 The Group has prepared its consolidated financial statements in accordance with the International Financial Reporting Standards (IFRS) from FY2018 (Date of transition: April 1, 2017).

[Updated Contents]

July 1st, 2022

Released FY2021 data

Added new contents

Environment > Prevention of global warming > GHG emissions > Scope 1, Scope 2, Scope 1 + 2






Environment > Prevention of global warming > CH₄ emissions, N₂O emissions

Environment > Prevention of global warming > Amount of calculated leakage of fluorocarbons (Group Companies in Japan)




Environment > Water > Water consumption

Sustainability Library




FY2022

- [TechnoAmenity Report 2022 \[10MB\]](#) 
- [RC Report 2022 \[6.1MB\]](#) 
 - [Third-party Verification Report on GHG \[145KB\]](#) 
- [Financial Report 2022 \[1.5MB\]](#) 
- [TCFD Report \(April 2022\) \[567KB\]](#) 




FY2021

- [TechnoAmenity Report 2021 \[13.2MB\]](#) 
- [TechnoAmenity Report Financial Section 2021 \[1.3MB\]](#) 
- [RC Reports 2021 \[6.1MB\]](#) 

FY2020

- [TechnoAmenity Report 2020 \[11.2MB\]](#) 
- [TechnoAmenity Report Financial Section 2020 \[948KB\]](#) 
- [RC Reports 2020 \[6.2MB\]](#) 

FY2019

- [TechnoAmenity Report 2019 \[9.9MB\]](#) 
- [TechnoAmenity Report Financial Section 2019 \[8.8MB\]](#) 
- [RC Reports 2019 \[8.8MB\]](#) 

[CSR Reports back number](#)
[Annual Reports back number](#)

Reports

TechnoAmenity Report (Integrated report)

This report has been published as an integrated report from the 2022 edition, and aims to help a broad range of stakeholders understand our initiatives to achieve the Nippon Shokubai Group's Mission "TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology."



RC Report

Reports that present the details of Responsible Care (RC) activities.







TCFD Report

Reports containing information based on the TCFD framework.








CSR Reports Back number

CSR Reports Back number

2018 CSR Report [10.0MB]	
2017 CSR Report [8.0MB]	
2016 CSR Report [3.0MB]	
2015 CSR Report [2.5MB]	

Environmental and Social Reports Back number

2014 Environmental and Social Report [2.5MB]	
2013 Environmental and Social Report [2.8MB]	
2012 Environmental and Social Report [3.0MB]	
2011 Environmental and Social Report [2.9MB]	
2010 Environmental and Social Report [2.9MB]	

GRI Standards Comparison Table

The Nippon Shokubai Group refers to “GRI Sustainability Reporting Standards” in our sustainability reporting.

Related documents

- [TechnoAmenity Report](#)
- [TCFD Report](#)
- [Financial Report](#)

GRI 102: General Disclosures 2016

1. Organizational profile

No.	Disclosure	References
102-1	Name of the organization	Company Profile
102-2	Activities, brands, products, and services	Products TechnoAmenity Report 2022 At a Glance (P.3-4)
102-3	Location of headquarters	Company Profile
102-4	Location of operations	Domestic Network Global Network
102-5	Ownership and legal form	Company Profile
102-6	Markets served	Products Domestic Network Global Network TechnoAmenity Report 2022 At a Glance (P.3-4)
102-7	Company Profile	Company Profile Domestic Network Global Network Financial Report

102-8	Information on employees and other workers	Company Profile ESG Data
102-9	Supply chains	Products TechnoAmenity Report 2022 At a Glance (P.3-4)
102-10	Significant changes to the organization and its supply chain	—
102-11	Precautionary principle or approach	Risk Management RC Initiatives Supply Chain Management TCFD Report
102-12	External initiatives	Initiatives and Organizations
102-13	Disclosure	Initiatives and Organizations

2.Strategy













No.	Disclosure	References
102-14	Statement from senior decision-maker	Message from the President
102-15	Key impacts, risks, and opportunities	Message from the President Materiality TCFD Report

3. Ethics and integrity

No.	Disclosure	References
102-16	Values, principles, standards, and norms of behavior	Group Mission Framework/Safety Philosophy
102-17	Mechanisms for advice and concerns about ethics	Compliance

4.Governance

No.	Disclosure	References
102-18	Governance structure	Corporate Governance
102-19	Delegating authority	Corporate Governance
102-20	Executive-level responsibility for economic, environmental, and social topics	Corporate Governance
102-21	Consulting stakeholders on economic, environmental, and social topics	Sustainability Management

102-22	Composition of the highest governance body and its committees	Corporate Governance 
102-23	Chair of the highest governance body	Corporate Governance 
102-24	Nominating and selecting the highest governance body	—
102-25	Conflicts of interest	—
102-26	Role of the highest governance body in setting purpose, values, and strategy	—
102-27	Collective knowledge of highest governance body	Corporate Governance 
102-28	Evaluating the highest governance body's performance	Corporate Governance 
102-29	Identifying and managing economic, environmental, and social impacts	Corporate Governance 
102-30	Effectiveness of risk management processes	Corporate Governance 
102-31	Review of economic, environmental, and social topics	Corporate Governance 
102-32	Highest governance body's role in sustainability reporting	Sustainability Management 
102-33	Communicating critical concerns	Corporate Governance 
102-34	Nature and total number of critical concerns	ESG Data 
102-35	Remuneration policies	Corporate Governance 
102-36	Process for determining remuneration	Corporate Governance 
102-37	Stakeholders' involvement in remuneration	—
102-38	Annual total compensation ratio	—
102-39	Percentage increase in annual total compensation ratio	—

5.Stakeholder engagement

No.	Disclosure	References
102-40	List of stakeholder groups	Stakeholder Communication 
102-41	Collective bargaining agreements	Developing/Promoting the Active Participation of Talent  ESG Data 

102-42	Identifying and selecting stakeholders	—
102-43	Approach to stakeholder engagement	Stakeholder Communication
102-44	Key topics and concerns raised	—

6. Reporting practice

No.	Disclosure	References
102-45	Entities included in the consolidated financial statements	Financial Report TechnoAmenity Report 2022 Scope of this Report (P.5)
102-46	Defining report content and topic boundaries	TechnoAmenity Report 2022 Editorial Policy (P.5)
102-47	List of material topics	Materiality
102-48	Restatements of information	ESG Data
102-49	Changes in reporting	—
102-50	Reporting period	TechnoAmenity Report 2022 Scope of this Report (P.5)
102-51	Date of most recent report	—
102-52	Reporting cycle	—
102-53	Contact point for questions regarding the report	Inquiries
102-54	Claims of reporting in accordance with the GRI Standards	—
102-55	GRI content index	GRI Standards Comparison Table
102-56	External assurance	—

GRI 103: Management Approach 2016

No.	Disclosure	References
103-1	Explanation of the material topic and its boundary	Materiality
103-2	The management approach and its components	Sustainability Management Materiality

		RC Initiatives Corporate Governance
103-3	Evaluation of the management approach	Sustainability Management RC Initiatives Corporate Governance

GRI 201: Economic Performance 2016

No.	Disclosure	References
201-1	Direct economic value generated and distributed	Financial Report
201-2	Financial implications and other risks and opportunities due to climate change	TCFD Report
201-3	Defined benefit plan obligations and other retirement plans	Financial Report
201-4	Financial assistance received from government	—

GRI 202: Market Presence 2016

No.	Disclosure	References
202-1	Ratios of standard entry-level wages by gender compared to local minimum wage	—
202-2	Proportion of senior management hired from the local community	—



GRI 203: Indirect Economic Impacts 2016

No.	Disclosure	References
203-1	Infrastructure investments and services supported	Biodiversity Preservation Social Contribution
203-2	Significant indirect economic impacts	—


GRI 204: Procurement Practices 2016

No.	Disclosure	References
204-1	Proportion of spending on local suppliers	—

GRI 205: Anti-Corruption 2016

No.	Disclosure	References
205-1	Operations assessed for risks related to corruption	—
205-2	Communication and training about anti-corruption policies and procedures	Compliance 
205-3	Confirmed incidents of corruption and actions taken	ESG Data 


GRI 206: Anti-Competitive Behavior 2016

No.	Disclosure	References
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	ESG Data 








GRI 207: Tax 2019

No.	Disclosure	References
207-1	Approach to tax	Code of Conduct 
207-2	Tax governance, control, and risk management	—
207-3	Stakeholder engagement and management of concerns related to tax	—
207-4	Country-by-country reporting	—








GRI 301: Materials 2016

No.	Disclosure	References
301-1	Materials used by weight or volume	ESG Data 
301-2	Recycled input materials used	—
301-3	Reclaimed products and their packaging materials	—

GRI 302: Energy 2016

No.	Disclosure	References
302-1	Energy consumption within the organization	Tackling Climate Change  ESG Data 
302-2	Energy consumption outside of the organization	Tackling Climate Change 
302-3	Energy intensity	Tackling Climate Change  ESG Data 
302-4	Reduction of energy consumption	Tackling Climate Change 
302-5	Reductions in energy requirements of products and services	Tackling Climate Change 

GRI 303: Water and Effluents 2018

No.	Disclosure	References
303-1	Interactions with water as a shared resource	Water Resource Preservation  ESG Data 
303-2	Management of water discharge-related impacts	—
303-3	Water withdrawal	Water Resource Preservation  ESG Data 
303-4	Water discharge	Water Resource Preservation  ESG Data 
303-5	Water consumption	Water Resource Preservation 

GRI 304: Biodiversity 2016

No.	Disclosure	References
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	—
304-2	Significant impacts of activities, products, and services on biodiversity	Biodiversity Preservation 🔗
304-3	Habitats protected or restored	Biodiversity Preservation 🔗
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	—

GRI 305: Emissions 2016

No.	Disclosure	References
305-1	Direct (Scope 1) GHG emissions	Tackling Climate Change 🔗 ESG Data 🔗
305-2	Energy indirect (Scope 2) GHG emissions	Tackling Climate Change 🔗 ESG Data 🔗
305-3	Other indirect (Scope 3) GHG emissions	Tackling Climate Change 🔗 ESG Data 🔗
305-4	GHG emissions intensity	Tackling Climate Change 🔗 ESG Data 🔗
305-5	Reduction of GHG emissions	Tackling Climate Change 🔗
305-6	Emissions of ozone-depleting substances (ODS)	Tackling Climate Change 🔗
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Air Pollution Prevention 🔗 ESG Data 🔗

GRI306 Waste 2020

No.	Disclosure	References
306-1	Waste generation and significant waste-related impacts	Waste Reduction ESG Data
306-2	Management of significant waste-related impacts	Waste Reduction ESG Data
306-3	Waste generated	Waste Reduction ESG Data
306-4	Waste diverted from disposal	Waste Reduction ESG Data
306-5	Waste directed to disposal	Waste Reduction ESG Data

GRI 307: Environmental Compliance 2016

No.	Disclosure	References
307-1	Non-compliance with environmental laws and regulations	Environmental Impacts of Business Activities ESG Data

GRI 308: Supplier Environmental Assessment 2016

No.	Disclosure	References
308-1	New suppliers that were screened using environmental criteria	—
308-2	Negative environmental impacts in the supply chain and actions taken	—

GRI 401: Employment 2016

No.	Disclosure	References
401-1	New employee hires and employee turnover	ESG Data
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time	—

	employees	
401-3	Parental leave	ESG Data

GRI 402: Labor/Management Relations 2016

No.	Disclosure	References
402-1	Minimum notice periods regarding operational changes	Developing/Promoting the Active Participation of Talent

GRI 403: Occupational Health and Safety 2018

No.	Disclosure	References
403-1	Occupational health and safety management system	Occupational Safety and Health
403-2	Hazard identification, risk assessment, and incident investigation	Occupational Safety and Health
403-3	Occupational health services	Occupational Safety and Health
403-4	Worker participation, consultation, and communication on occupational health and safety	Occupational Safety and Health
403-5	Worker training on occupational health and safety	Occupational Safety and Health ESG Data
403-6	Promotion of worker health	Developing/Promoting the Active Participation of Talent
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Supply Chain Management
403-8	Workers covered by an occupational health and safety management system	—
403-9	Work-related injuries	Occupational Safety and Health ESG Data
403-10	Work-related ill health	ESG Data

GRI 404: Training and Education 2016

No.	Disclosure	References
404-1	Average hours of training per year per employee	ESG Data
404-2	Programs for upgrading employee skills and transition assistance programs	Developing/Promoting the Active Participation of Talent
404-3	Percentage of employees receiving regular performance and career development reviews	Developing/Promoting the Active Participation of Talent

GRI 405: Diversity and Equal Opportunity 2016

No.	Disclosure	References
405-1	Diversity of governance bodies and employees	ESG Data
405-2	Ratio of basic salary and remuneration of women to men	—

GRI 406: Non-Discrimination 2016

No.	Disclosure	References
406-1	Incidents of discrimination and corrective actions taken	Respect for human rights ESG Data

GRI 407: Freedom of Association and Collective Bargaining 2016

No.	Disclosure	References
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	—

GRI 408: Child Labor 2016

No.	Disclosure	References
408-1	Operations and suppliers at significant risk for incidents of child labor	—

GRI 409: Forced or Compulsory Labor 2016

No.	Disclosure	References
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	—


GRI 410: Security Practices 2016

No.	Disclosure	References
410-1	Security personnel trained in human rights policies or procedures	—

GRI 411: Rights of Indigenous Peoples 2016

No.	Disclosure	References
411-1	Incidents of violations involving rights of indigenous peoples	—

GRI 412: Human Rights Assessment 2016

No.	Disclosure	References
412-1	Operations that have been subject to human rights reviews or impact assessments	Respect for human rights 

412-2	Employee training on human rights policies or procedures	Respect for human rights ↗
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	—

GRI 413: Local Communities 2016

No.	Disclosure	References
413-1	Operations with local community engagement, impact assessments, and development programs	Social Contribution ↗ Occupational Safety and Health ↗
413-2	Operations with significant actual and potential negative impacts on local communities	—

GRI 414: Supplier Social Assessment 2016



No.	Disclosure	References
414-1	New suppliers that were screened using social criteria	—
414-2	Negative social impacts in the supply chain and actions taken	—

GRI 415: Public Policy 2016



No.	Disclosure	References
415-1	Political contributions	ESG Data ↗

GRI 416: Customer Health and Safety 2016

No.	Disclosure	References
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416-1	Assessment of the health and safety impacts of product and service categories	Chemical Safety 
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Chemical Safety 

GRI 417: Marketing and Labeling 2016

No.	Disclosure	References
417-1	Requirements for product and service information and labeling	Chemical Safety 
417-2	Incidents of non-compliance concerning product and service information and labeling	Chemical Safety 
417-3	Incidents of non-compliance concerning marketing communications	—

GRI 418: Customer Privacy 2016

No.	Disclosure	References
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	—

GRI 419: Socioeconomic Compliance 2016

No.	Disclosure	References
419-1	Non-compliance with laws and regulations in the social and economic area	ESG Data 