

Global "sukima" ideas



**Nippon Kayaku Group
Sustainability Report**

2022



Contents

Message from the President

Message from the President02
 Messages from Group Company Presidents.....03

Sustainable Management

Sustainable Management09
 Important Issues (Materiality)12
 Implementing Responsible Care.....21
 [Important Issues] Respect for Human Rights23
 Stakeholder Engagement25
 Participation in External Initiatives.....28

Highlight

Innovation through Business31
 Data Highlights37

Initiatives for ESG

Environment

Environmental Management39
 [Important Issues] Reducing Energy Consumption and Greenhouse Gas Emissions42
 Prevention of Air Pollution46
 [Important Issues] Reduction of Wastewater and Industrial Waste47
 [Important Issues] Improving Efficiency of Water Resource Use.....50
 Biodiversity.....52
 Environmental Accounting53

Social

[Important Issues] Quality and Customer Safety57
 [Important Issues] Occupational Health and Safety in the Workplace62
 Diversity & Inclusion67
 [Important Issues] Maintaining and Expanding Employment, Developing Human Resources69
 Health and Productivity Management73
 [Important Issues] Environmental and Social Considerations in the Supply Chain.....75
 Contribution to Local Communities.....77

Governance

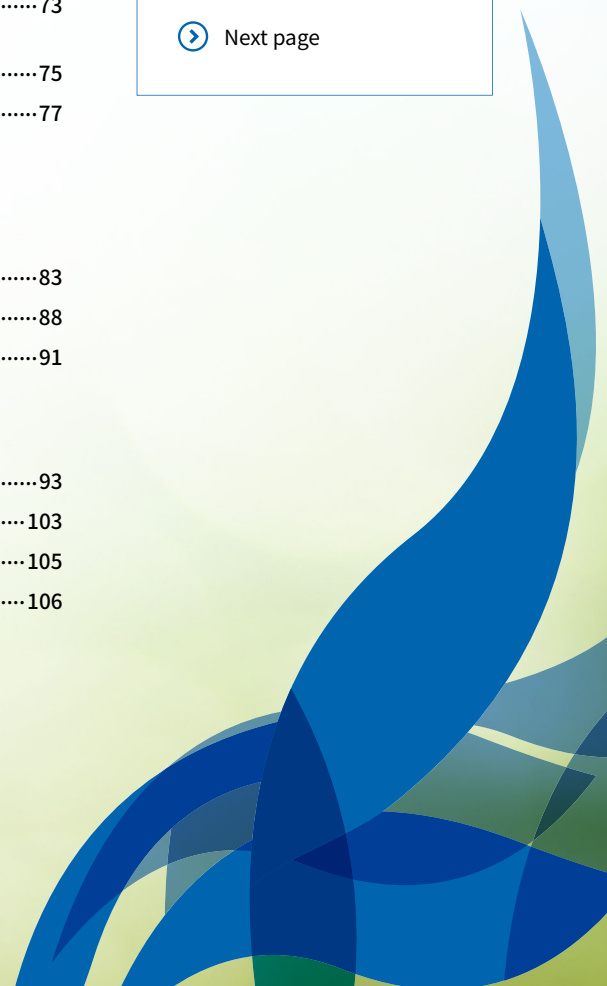
[Important Issues] Strengthening Corporate Governance83
 [Important Issues] Ensuring Compliance.....83
 [Important Issues] Risk Management88
 Intellectual Property.....91

Library

Data Summary93
 External Evaluations and Awards.....103
 Independent Third-party Assurance Report105
 Editorial Policy.....106

How to Use This PDF

- Jump to the contents
- Previous view
- Previous page
- Next page



Message from the President

Message from the President	02
Messages from Group Company Presidents	03

Message from the President



Mission in *KAYAKU Vision 2025 (KV25)*

The Nippon Kayaku Group aims to be a company with a strong presence that can consistently provide happiness and delight to the environment, society and all stakeholders under the KAYAKU spirit.

The Nippon Kayaku Group's Corporate Vision is embodied by the **KAYAKU spirit**: "continuously providing society with the best products through ceaseless progress and the combined forces of our consciences." We have inherited this **KAYAKU spirit** since the time of our founding and consistently engaged in our business activities with the attitude that we must do useful work for the world and its people. While our individual jobs and workplaces may differ, the **KAYAKU spirit** serves as the fundamental basis for the judgments and actions of all Group officers and employees.

Our new Medium-term Business Plan—**KAYAKU Vision 2025 (KV25)**—was launched in FY2022. The plan spans a period of four years, until FY2025. The key focus of KV25 is a set of five key company-wide material issues (Creation of New Business and Products, Mitigation of Climate Change, DX, Business Process Re-engineering, and Work Style Reform), which are the subject of efforts by the Materiality Cross-Functional Team (M-CFT). By integrating activities to achieve our ideal vision for our four businesses with M-CFT activities, we will generate synergistic effects and aim to realize the Group's mission of being a company with a strong presence that can consistently provide happiness and delight to the environment, society and all stakeholders under the **KAYAKU spirit**.

On April 1, 2022, we established our Basic Policy on Sustainable Management. Through a combination of activities in our four businesses and initiatives relating to materialities under KV25, which combines five key company-wide material issues with supplementary key sustainability issues, we will engage in sustainable management—a further evolution of CSR management that we have engaged in thus far—to create environmental, social and economic value. In September 2021, we joined the United Nations Global Compact (UNGC). We will incorporate the UNGC's 10 principles—covering the themes of human rights, labor, environment, and anti-corruption—into our day-to-day operations and strategies and contribute to the creation of a sustainable society by achieving the goals set forth under the Sustainable Development Goals (SDGs) through our business activities.

Going forward, we will continue to enhance our corporate governance and work to ensure thorough compliance, strengthen our management base, and increase our corporate value while practicing sustainable management with a high sense of ethics. I ask for the continued support of all our stakeholders moving forward.

July 2022

Nippon Kayaku Co., Ltd.
President and Representative Director

A handwritten signature in black ink, appearing to read "Masahito Shikata".

Messages from Group Company Presidents

The Nippon Kayaku Group is engaged in business operations in 12 countries and regions around the world. Here, we present messages from the presidents of 24 Group companies.



Japan Functional Chemicals Business

NIKKA FINE TECHNO CO., LTD. President and Representative Director Nagafumi Saito

NIKKA FINE TECHNO is a domestic trading company in the Nippon Kayaku Group. We aim to be a trading company that "realizes" our customers' "desires" by proposing and selling the most suitable products from our wide range of commercial materials.

Furthermore, in order to always be "a company that changes, adapts, and develops", each and every one of our employees will comply with our "Charter of Conduct and Code of Conduct", and we will prove worthy of all stakeholders' trust through the practice of sustainable management under the **KAYAKU spirit**.



South Korea Functional Chemicals Business

Nippon Kayaku Korea Co., Ltd. President and Representative Director Naoki Shiroiwa

Nippon Kayaku Korea imports and sells products of the Functional Chemicals Business, engages in contracted manufacturing operations in South Korea, and exports and sells various products and raw materials.

Since we handle a diverse range of business divisions there are inevitably many relevant laws and regulations (especially three key chemical-related laws), and we work to ensure compliance with those laws and regulations. Going forward, we will seek to enhance our corporate governance to ensure transparency and fairness in our business operations. Although our contribution may be small, we will make every effort to enhance environmental and social value and work as a team to implement sustainable management and meet the expectations of all stakeholders.

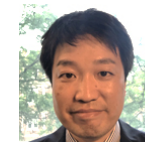


United States Functional Chemicals Business and Safety Systems Business

NIPPON KAYAKU AMERICA, INC. President Naofusa Miyagawa

NIPPON KAYAKU AMERICA operates in North America, selling functional chemicals that contribute to the conservation of energy and resources, and engaging in sales promotions and technical support for automotive safety components.

As a business operator that handles chemical products we comply with laws and regulations, conduct rigorous quality control checks and sell safe and environmentally friendly products. We also engage in initiatives to propose products, technologies and services to customers and partners that can contribute to the realization of a sustainable society, not only from an environmental perspective but also from the perspective of social and economic value. Going forward, we will remain mindful of the **KAYAKU spirit** as we continue in our efforts to contribute to the creation of a more sustainable society, however small our contribution may be.



Germany Functional Chemicals Business

Euro Nippon Kayaku GmbH Managing Director Yoshiyuki Dejima

Euro Nippon Kayaku sells functional chemicals in Europe. Europe was the first region in the world to declare the goal of achieving zero effective emissions of greenhouse gases (becoming climate neutral) by 2050. Under the European Green Deal, efforts to integrate environmental policies with economic and social policies are accelerating faster and faster, and there are expectations for transformations from conventional society and the creation of new businesses.

Under these conditions, we aim to contribute to the creation of a sustainable society by supplying the best, safest and most environmentally friendly products to as many customers as possible.



Japan Functional Chemicals Business

Kowa Sangyo Co., Ltd. President and Representative Director Kazuki Uchida

Kowa Sangyo mainly handles manufacturing operations at Nippon Kayaku's Asa Plant, as well as related transportation and inspection operations. Based on our basic philosophy of prioritizing safety first over everything, each and every one of our employees engages in business activities in accordance with the Nippon Kayaku Group Charter of Conduct and Standards of Conduct. In order to achieve sustainable management, we first implement small changes that we can make in our work, such as eliminating wasteful energy consumption and reducing waste output. Through sustainability training and education, we hope to link these efforts to changes in individual employee awareness, so that every employee feels motivated to try and make a difference. Going forward, we will continue working to meet the expectations of all stakeholders, both as a member of the Nippon Kayaku Group and as a company with close ties to local communities.



United States Functional Chemicals Business

KAYAKU Advanced Materials, Inc. President & CEO Jeremiah J. Cole Jr.

KAYAKU Advanced Materials is located in Westboro, Massachusetts, USA. KAM has approximately 100 employees and is a specialty materials provider bringing innovative materials to the microelectronics marketplace. The Company is deeply committed to the responsible management of its business, through a strong foundation of principles including operational integrity, ethical business practices, good governance, uncompromising regulatory compliance and the explicit respect for our environment and community. The Company strives to provide its employees with an innovative, safe, diverse, inclusive, and respectful workplace, where individual contributions and personal development are highly valued and encouraged. Our corporate values are shaped by strict adherence to “KAYAKU spirit” which guides us to act responsibly in all we do. This, we believe, provides long term value to our customers, employees, community, and the Nippon Kayaku Group.



China Functional Chemicals Business

KAYAKU CHEMICAL (WUXI) CO., LTD. General Manager Kazuhiko Ishii

KAYAKU CHEMICAL (WUXI) is a wholly owned subsidiary of Nippon Kayaku, established in 2002 for the manufacture and sale of photocurable resins for electronic components. The company marks its 20th anniversary this year. In 2020, we began handling selling cleaners for LCDs and semiconductors, and are expanding our operations with the aim of achieving local production for local consumption in the Chinese market. In China, many issues—such as environmental problems—have arisen as a result of rapid economic development, and the conditions facing companies are becoming increasingly severe. In view of these conditions, sustainable management will become even more important to ensure the continuity and development of our business. At KAYAKU CHEMICAL (WUXI) we aim to realize the **KAYAKU spirit**. To implement sustainable management, we believe that it is of the utmost importance for each and every one of our employees to act in accordance with the Nippon Kayaku Group Charter of Conduct and the Code of Conduct. Going forward, we will continue to contribute to society by providing the high-quality products required by customers in a broad sense; not simply because everyone else is doing it, but by acting with a strong sense of moral responsibility while respecting local culture, history and business customs.



Japan Functional Chemicals Business

Teikoku Taping System Co., Ltd. President and CEO Ichiro Tomonaga

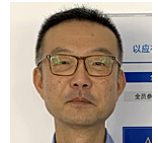
Teikoku Taping System (TTS) designs, develops, manufactures, sells and provides maintenance services for semiconductor manufacturing equipment. The “TTS Values” outlined in our corporate philosophy include ideas that clarify the ideal vision of our company, our goals, and basic management concepts. Through these TTS Values, we maintain awareness of sustainable management and activities to promote sustainability from our daily business process to all activities.



China Functional Chemicals Business

WUXI ADVANCED KAYAKU CHEMICAL CO., LTD. General Manager Ryo Fujimori

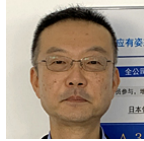
WUXI ADVANCED KAYAKU CHEMICAL manufactures dyes for textiles, paper manufacture and inkjet printing, based on a management policy of delivering human-oriented, environmentally friendly, and customer-satisfying products. In addition to requirements for environmental conservation and safe production, the requirements for carbon neutrality in China are becoming increasingly challenging. Going forward, we will continue to conserve energy and reduce wastewater and waste output in our production processes while giving maximum consideration to improving the working environment for our employees. At the same time, we will deliver highly safe dyes with Bluesign® certification and increase our lineup of products that lead to the conservation of energy and resources and reduction of environmental impact by customers, as we work to contribute to the creation of a sustainable society.



China Functional Chemicals Business

Shanghai KAYAKU International Trading Co., Ltd. General Manager Ryo Fujimori

Shanghai KAYAKU International Trading sells dye and pigment-related products such as textile dyes, inkjet inks for printing, and coloring agents for heat sensitive applications to Asian markets, primarily China. In order to support efforts in the textile industry, such as the protection of water resources in the supply chain and the improvement of working environments, as represented by ZDHC, in addition to safe and secure products we will continue to provide various solutions such as problem solving and process shortening, contributing to customer reductions in wastewater output, energy conservation, increased productivity and improvements in the work environments at factories.



United States Functional Chemicals Business

MOXTEK, INC. President and CEO Shigeyuki Kawamura

MOXTEK contributes to society by utilizing cutting-edge nano-optical and X-ray technologies for imaging and analysis equipment. The basic aspects of our sustainability activities are (1) growing together with local communities and (2) making contributions to society, rooted in technology. We actively support local community activities; cooperating with science-related extracurricular activities at elementary schools that participate in programs to support homeless people. At the same time, we also cooperate actively with efforts to unravel the mysteries of the universe and its origins, such as through our contributions to NASA exploration of Mars and space telescope projects. We are deeply rooted in the local community and make efforts to contribute to the development of science.



Thailand Functional Chemicals Business

NIPPON KAYAKU (THAILAND) CO., LTD. President and Representative Director Tetsuya Tomita

NIPPON KAYAKU (THAILAND) was established in 2018 with the main roles of selling Functional Chemicals Business products in the ASEAN and South Asian regions, procuring raw materials and intermediates from those regions, and conducting research in related markets. Looking ahead, all of our employees will work together to ensure compliance and make significant contributions to local communities in countries in the ASEAN and South Asian regions by providing safer materials, and materials that can contribute to energy conservation.



China Functional Chemicals Business

WUXI POLATECHNO OPTICS CO., LTD. General Manager Hiroyuki Emori

WUXI POLATECHNO OPTICS (WPLC) is engaged in the production of materials for liquid crystal projectors, post-processing of polarized films for automotive applications (Wuxi), and sales activities in China and other Asian countries (Shenzhen). In China, too, the environmental and safety-related demands placed on companies are increasing, and it is necessary for us to understand and adapt to changes surrounding environmental and social issues. WPLC has already introduced green electric power, and is also engaged in energy-saving activities and efforts to reduce wastewater and waste output. To adapt to such changes, we believe it is important for each and every one of our employees to comply with the Nippon Kayaku Group Charter of Conduct and Code of Conduct, have an awareness of safe operation, and work together as a team. Going forward, WPLC will continue to practice the **KAYAKU spirit** and contribute to the creation of a sustainable environment and society.



Japan Functional Chemicals Business

POLATECHNO CO., LTD. President and Representative Director Hirokazu Karino

POLATECHNO has made a new start as Nippon Kayaku's Joetsu Plant. Going forward, we will continue to make safety our top priority as we work to maintain a safe and comfortable workplace with zero industrial accidents. We aim to create a sense of unity in the workplace and optimize manufacturing while working to create a greater sense of camaraderie among employees. As a strategy to help improve the global environment, we are actively engaged in energy-saving activities and efforts to reduce industrial waste output, such as utilizing and firmly establishing MFCA, reusing water, improving waste liquid treatment methods, and recycling waste plastics. Looking ahead, we will aim to create a Joetsu Plant that is both friendly to the global environment and firmly rooted in the local community, as we continue contributing to the enrichment of life and the creation of a sustainable society through the stable supply of distinctive products to the world.



Netherlands Functional Chemicals Business

Dejima Optical Films B.V. Managing Director Jan Willem Venema

At Dejima Optical Films we design, develop and produce -among others- Liquid Crystal Polymer based optical films for the display industry and other applications. With these activities we contribute to the "Light Control Business" of Nippon Kayaku Functional Chemical Group. We are fully committed to sustainable management of Nippon Kayaku. Since the start of Dejima in 1999 we recycle as much as possible our packaging material of Twistar™ that is shipped to the Joetsu plant in Niigata as well as for the raw materials that we receive from Joetsu factory. When we built our new facility in 2008 much effort was put in the design to minimize energy consumption and various equipment was installed for energy recovery from our manufacturing plant. Furthermore the waste gas of organic solvents of our coating lines is catalytically oxidized in an incinerator in order to minimize environmental pollution. The electric power required for our plant has a so-called green-label and is certified generated by wind energy. With the sharp increase of the energy prices we are now studying the possibility to install solar power panels on the roofs of the buildings, although it will be only capable to serve a limited percentage of our power consumption. At Dejima we take into account human and environmental safety in all our management decisions.



United Kingdom Functional Chemicals Business

RaySpec Ltd. Managing Director Peter Smith

RaySpec places a key emphasis on legal compliance, works to create a workplace environment with consideration for equal opportunities and good health without discrimination, and conducts its business operations in a fair and impartial manner. We consider the environmental impact of all new product development efforts and actively engage in energy-saving initiatives, both through our capital investments and day-to-day activities. RaySpec actively involves itself with charitable organizations and supports fundraising activities. RaySpec products use systems that can evaluate and limit the use of hazardous substances to determine failure modes of machines and check the quality of products, contributing to the safety and well-being of people around the world.



Japan Pharmaceuticals Business

NIPPONKAYAKU FOOD TECHNO CO., LTD. President and Representative Director Tomomasa Tsuchibuchi

NIPPONKAYAKU FOOD TECHNO manufactures and sells preservatives such as ethanol preparations and oxygen absorbers that help preserve the quality of food products, and health food ingredients such as chitosan. Through the provision of excellent products and high value services that ensure food safety and health based on sustainable management, we aim to contribute to society by reducing food loss (with preservatives) and proposing good health through food (with health food ingredients). In order to realize the **KAYAKU spirit** as a member of the Nippon Kayaku Group, we place our highest priorities on safe operation, compliance, and care and consideration for the environment. We work to ensure that each and every one of our employees complies with the Nippon Kayaku Group Charter of Conduct, in order to answer to the trust and expectations of our customers.



Japan Pharmaceuticals Business

Tumor Diagnosis Support Co., Ltd. President and Representative Director Koichi Ono

Tumor Diagnosis Support (TD Support) supports histopathological analysis of mammary gland tissue to diagnose tumors. Breast cancer now ranks first in terms of numbers of cancer cases (prevalence) among women. Despite this, it is still considered a very difficult type of cancer to diagnose by histopathological diagnosis, and effective treatment is not possible without an accurate diagnosis. TD Support works every day to contribute to the development of an environment in which the best medical care can be provided to patients with breast cancer, as part of the sustainable management efforts of the Nippon Kayaku Group.



Japan Pharmaceuticals Business

Gunnan Sangyo Co., Ltd. President and Representative Director Daisuke Funagoshi

Gunnan Sangyo is contracted to manage cleaning of buildings, landscaping and greenery operations at Takasaki Plant, the only manufacturing plant of the Nippon Kayaku Group's Pharmaceutical Business division, and the management of the "Hisho" training center, a HR development location for Nippon Kayaku Group employees. Takasaki Plant is located in rich natural surroundings, surrounded on three sides by the Karasu, Ino and Kasu rivers (all designated as first-class rivers) and adjacent to the IDA Forest of Gunma (Gunma no Mori Prefectural Forest Park) on the north side. The plant manufactures various pharmaceuticals that help to protect people's lives. Going forward, we will continue to implement sustainable management by providing a comfortable environment for employees at the Takasaki Plant, the training center, and its local residents.



Taiwan Pharmaceuticals Business and Functional Chemicals Business

Taiwan Nippon Kayaku Co., Ltd. General Manager Daisuke Komagata

Taiwan Nippon Kayaku engages primarily in product sales and market research for the Pharmaceuticals Business and Functional Chemicals Business divisions. Currently we are engaged in three key initiatives to help realize the **KAYAKU spirit**: (1) working to improve the quality of daily operations to accurately grasp customer needs and communicate them to the relevant departments within the company; (2) contributing to local cultural and economic exchanges by actively participating in and cooperating with various activities and events such as the Japan Exchange Association and the Taipei Municipal Industrial and Commercial Association; and (3) maintaining constant awareness of the **KAYAKU spirit** by establishing a Corporate Vision Board in the middle of the company offices and carrying portable reference cards at all times when engaging in daily activities. Going forward, we will continue to actively engage in sustainability promotion activities to contribute to local communities.



Mexico Safety Systems Business

Kayaku Safety Systems de Mexico, S.A. de C.V. President and Representative Director Susumu Tokutake

Kayaku Safety Systems de Mexico (KSM) was founded in May 2007, and celebrated its 15th anniversary this year. Despite cultural differences in Mexico, we have been working continuously to spread the **KAYAKU spirit**, our corporate vision, and have provided a stable supply of high-quality automotive safety components to countries around the world. Going forward, we will aim for long-term growth and continued progress while coexisting with our various stakeholders. KSM has also adopted an ideal vision for itself as a Nippon Kayaku Group company. This vision includes new initiatives that the company has never attempted before, such as in working to reduce greenhouse gases emissions. While they are aware of the term sustainable management, it seems that many Mexican employees do not yet fully understand its details—but I believe that all of our employees will work together as a team to implement sustainable management, because the **KAYAKU spirit** has been instilled in them. And I think that it is only by realizing our vision that we can build a better, more sustainable future.



Czech Republic Safety Systems Business

Kayaku Safety Systems Europe a.s. President Akinori Kanno

Kayaku Safety Systems Europe has been manufacturing and selling automotive safety components since 1999, in the city of Vsetin, in the eastern part of the Czech Republic. The products we supply are important safety components which help to protect the lives of vehicle occupants. We supply high-quality products to the market, with safe operation as our top priority. Going forward, we will continue to implement sustainable management, giving consideration to environmental issues, improving the quality of life for our employees, and aiming to contribute to our local community through various charitable activities.



Malaysia Safety Systems Business

Kayaku Safety Systems Malaysia Sdn.Bhd. Managing Director Yasushi Yoshida

Kayaku Safety Systems Malaysia was established in Malaysia in 2012, for the manufacture and sale of automotive safety components. The products we supply are installed in vehicles on the road in ASEAN member countries and other countries around the world. Safety and quality are the top priorities in our production activities. We practice sustainable management under the **KAYAKU spirit**, which is the corporate vision of the Nippon Kayaku Group. Going forward, we will continue to contribute to improving safety in our automotive society through the supply of automotive safety components, and aim to secure and maintain the trust of our stakeholders.



China Safety Systems Business

Kayaku Safety Systems (Huzhou) Co., Ltd. General Manager Takumi Fujita

Kayaku Safety Systems (Huzhou) (KSH) manufactures and sells safety-related components for automotive applications, contributing to the reduction of damage caused by automobile accidents by continuing to safely provide high-quality products. In addition to responding appropriately to China's increasingly stringent safety and environmental requirements, we also implement rigorous corporate governance and compliance measures. We will also work to increase economic value through continuous cost reductions. Going forward, KSH will continue working to earn the trust of all its stakeholders by practicing the **KAYAKU spirit** in accordance with the Nippon Kayaku Group's Basic Policy on Sustainable Management.



Sustainable Management

Sustainable Management	09
Important Issues (Materiality)	12
Implementing Responsible Care	21
[Important Issues] Respect for Human Rights	23
Stakeholder Engagement	25
Participation in External Initiatives	28

Sustainable Management

Basic Policy on Sustainable Management

Basic Policy on Sustainable Management

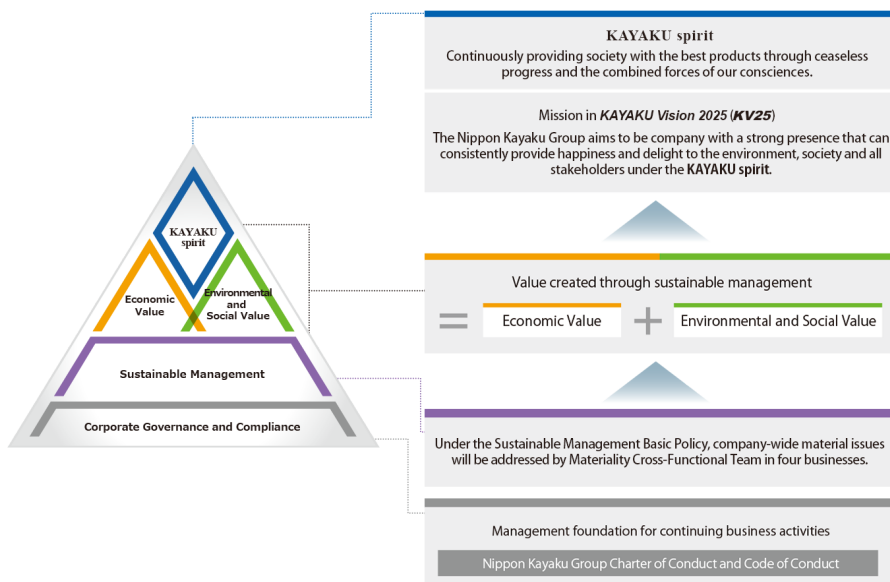
Under its corporate vision, the KAYAKU spirit, the Nippon Kayaku Group will practice sustainable management that responds to the trust placed in it by all of its stakeholders, by ensuring transparency and fairness in management and contributing to the creation of a sustainable environment and society through its business activities.

(KAYAKU spirit: Continuously providing society with the best products through ceaseless progress and the combined forces of our consciences.)

The KAYAKU spirit and Sustainable Management

The Nippon Kayaku Group's Corporate Vision is embodied by the KAYAKU spirit: "continuously providing society with the best products through ceaseless progress and the combined forces of our consciences." Under the KAYAKU spirit, we aim to create environmental, social and economic value by engaging in sustainable management, create a sustainable society, and increase our corporate value.

As a standard of conduct to realize the KAYAKU spirit, we have established a Nippon Kayaku Group Charter of Conduct and Code of Conduct. In all of our corporate activities, we respect fundamental human rights, comply with laws and regulations, engage in fair business activities and respond to the trust of all stakeholders.



Origin of the KAYAKU spirit

Founded 1916

Company credo established 1962

Yasusaburo Hara—our third president, who was involved in the Group's management for many years—established the company credo in 1962, with the desire to convey the important ideas that should be shared by all officers and employees in an easily understandable manner.

This is the origin of the KAYAKU spirit.



Company credo : The combined forces of our consciences , Ceaseless progress , The best products

Medium-term Business Plan and Sustainable Management



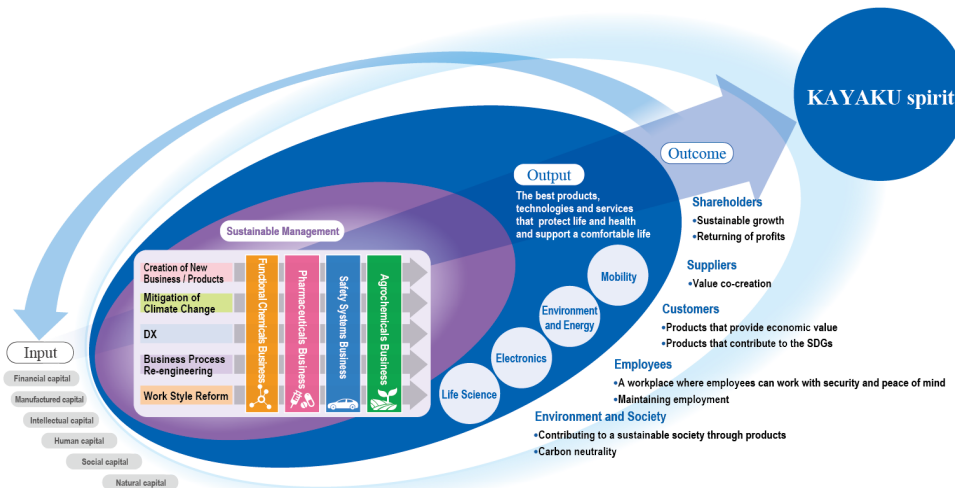
The new Medium-term Business Plan, KAYAKU Vision 2025 (KV25), is positioned as a strategy for implementing sustainable management. Through the activities of our four businesses and KV25 Materiality initiatives, we will contribute to the creation of a sustainable society by creating economic, environmental and social value.

Basic Strategies of the *KAYAKU Vision 2025*

Implement sustainable management	Provide economic, environmental and social value and contribute to solving social issues by implementing a value creation process
Prioritize allocation of management resources based on our business portfolio	Prioritize the allocation of management resources to products that are expected to grow in our four businesses (Functional Chemicals, Pharmaceuticals, Safety Systems and Agrochemicals)
Group-wide, cross-functional team addressing important issues (materiality)	Achieve sustainable growth as a group-wide, Materiality Cross-Functional Team (M-CFT) engaging in initiatives relating to materialities (Creation of New Business and Products, Mitigation of Climate Change, DX, Business Process Re-engineering, and Work Style Reform).
Strengthening the management base	<ul style="list-style-type: none"> Ensuring safety Improving the quality of products and services Ensuring compliance Strengthening governance

Nippon Kayaku Group's Value Creation Process

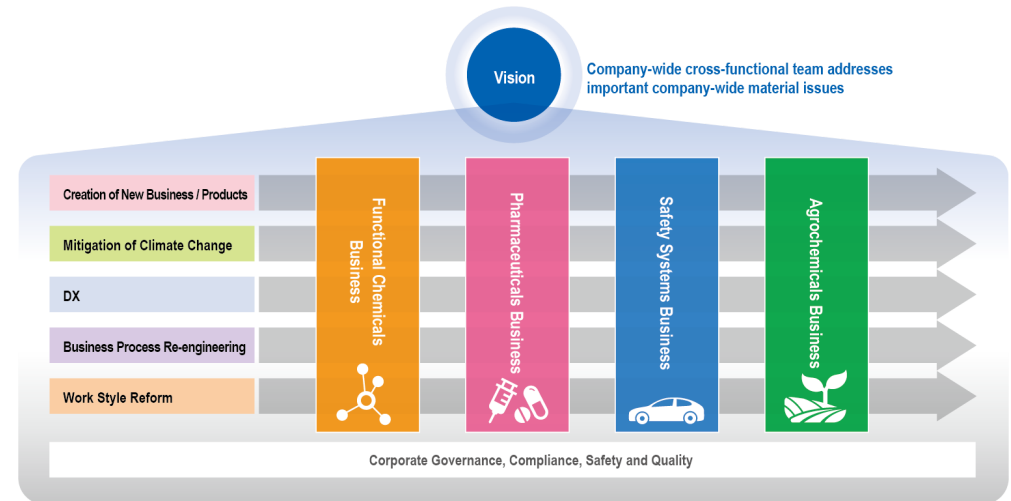
KV25 uses six forms of capital as inputs to implement sustainable management through the integration of the Group's four businesses and M-CFT, to provide society with the best products, technologies, and services in four key fields: Mobility, Environment and Energy, Electronics, and Life Science. We aim to increase corporate value continuously by delivering economic, environmental and social value to all stakeholders.



Important Company-wide Material Issues (Materiality) for Achieving Our Mission

The foundations for all of the Nippon Kayaku Group's business activities are corporate governance, compliance, safety and quality.

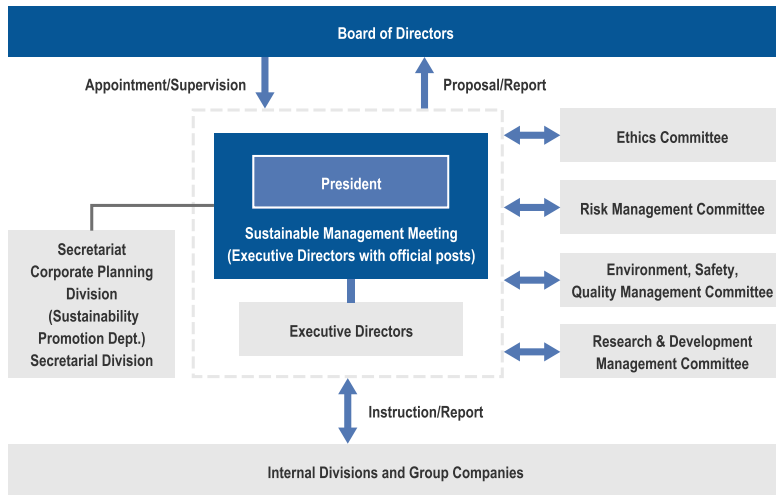
KV25 focuses on initiatives in five company-wide material issues: Creation of New Business and Products, Mitigation of Climate Change, DX, Business Process Re-engineering, and Work Style Reform, as a group-wide cross-functional project. By integrating the activities of the Group's four businesses and the M-CFT, we will create synergy effects and realize our mission for the Nippon Kayaku Group.



System

The Nippon Kayaku Group has created a Sustainable Management Meeting, chaired by the President under the direct supervision of the Board of Directors to implement sustainability initiatives throughout the Group. In principle, Sustainable Management Meetings are held on a weekly basis to discuss and report on all matters relating to the sustainability of the corporate group, society, and the environment. Agenda items are approved by the Sustainable Management Meeting before discussion and reporting at Board of Directors meetings.

Under the umbrella of the Sustainable Management Meeting, we have established four subcommittees: the Ethics Committee, the Risk Management Committee, the Environment, Safety, Quality Management Committee, and the Research & Development Management Committee. The committees hold meetings on a regular basis and discuss and report to the Sustainable Management Meeting to ensure the transparency and fairness of management.



The SDGs and the KAYAKU spirit

The SDGs are a set of 17 social, economic and environmental goals to be addressed by various bodies, organizations and entities by FY2030, adopted unanimously by UN member states with the goal of building a sustainable world.

The philosophy of the SDGs is synonymous with the Nippon Kayaku Group's corporate vision of continuously providing society with the best products through ceaseless progress and the combined forces of our consciences, and we believe that corporate activities for the realization of the KAYAKU spirit are consistent with the actualization of the SDGs, although the scale and targets are different from those of the United Nations.

The Nippon Kayaku Group's Sustainability Action Plan utilizes the SDG Compass to link each key sustainability issue (materiality) with one or more of the 17 SDGs.

Going forward, the Nippon Kayaku Group will continue working to generate environmental, social and economic value, create a sustainable society, increase its corporate value, and contribute to the achievement of the SDGs.

SUSTAINABLE DEVELOPMENT GOALS



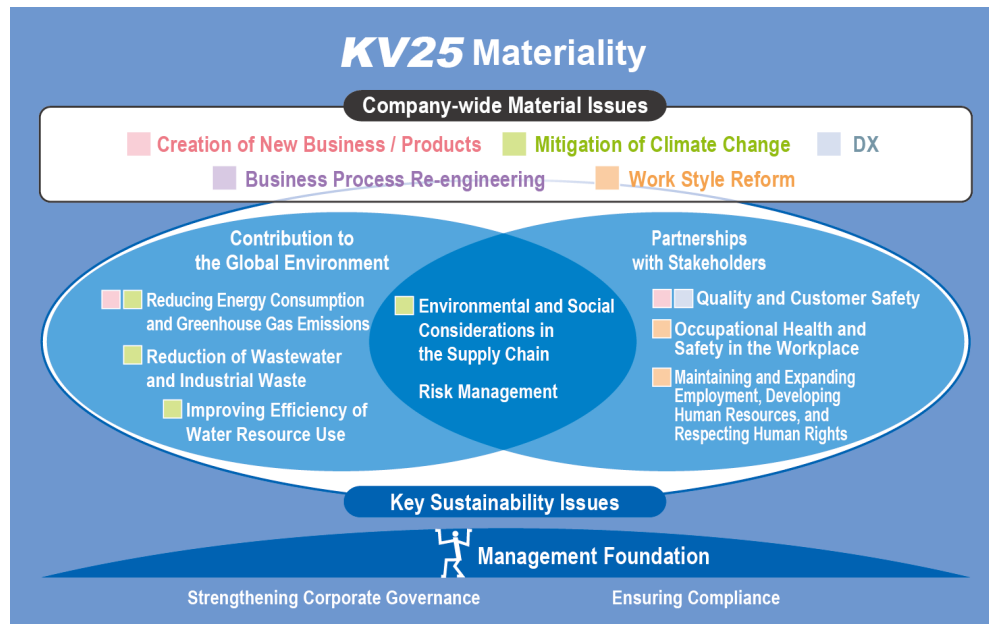
Important Issues (Materiality)

KV25 Materiality

In order to realize its mission of being a company with a strong presence that can consistently provide happiness and delight to the environment, society and all stakeholders under the **KAYAKU spirit**, the Nippon Kayaku Group has analyzed disparities between its goals and the current situation and identified five key company-wide material issues (materiality) to be addressed as priorities: Creation of New Business and Products, Mitigation of Climate Change, DX, Business Process Re-engineering and Work Style Reform.

We have also appropriately identified key themes faced by the Group in implementing sustainable management, from both internal and external perspectives, defined them as key sustainability issues (materiality), and formulated a Sustainability Action Plan linked to our business activities.

KV25 places top priority on addressing these company-wide material issues and the key sustainability issues that supplement them, to contribute to the creation of a sustainable environment and society based on our Basic Policy on Sustainable Management. KV25 Materiality is a generic term combining these company-wide material issues and key sustainability issues.



* The "■" symbol in front of each key sustainability issue indicates that initiatives addressing company-wide material issues also link to initiatives addressing sustainability-related issues.

Company-wide Material Issues Initiatives

In order to realize its mission, the Nippon Kayaku Group analyzed disparities between its goals and the current situation and identified five key issues that should be prioritized in company-wide cross-organizational projects, as company-wide material issues: Creation of New Business and Products, Mitigation of Climate Change, DX, Business Process Re-engineering and Work Style Reform. Our Materiality Cross-Functional Team (M-CFT), composed of members selected from multiple divisions, is working to instill awareness of initiatives addressing company-wide material issues and speed up the resolution of each issue.

Company-wide Material Issues	Initiatives
Creation of New Business and Products	Creation of New Business and Products Team will collaborate with our four businesses to create new businesses and products in the four fields of Mobility, Environment & Energy, Electronics, and Life Science, transcending the boundaries of existing organizational units and contributing to the realization of our mission.
Mitigation of Climate Change	We will work to prevent global warming—such as the reduction of greenhouse gases emissions—and achieve carbon neutrality, and make united efforts with each plant and research institute to combat climate change risks.
DX	Our current goals are to drive DX (digital transformation) throughout the Group, increase sales through process transformation, and expand our businesses by reducing costs. Specifically, we will work to achieve DX in the areas of (1) IT education and awareness reform, (2) strengthening IT infrastructure through ERP and IT infrastructure restructuring, etc., (3) R&D, production, sales/marketing and management business processes.
Business Process Re-engineering	We will work to improve our asset efficiency and earning power by reviewing our group business management, business operation / control (management) and cost control methods, and by improving work efficiency and productivity through A3 (KAIZEN)* activities aimed at business process improvement—to eliminate all kinds of waste—and cost reduction.
Workstyle reform	We will work to implement workstyle reforms and personnel system reforms to enable every employee to work energetically and increase employee engagement, with the aim of being a good, strong, energetic company.

* A3 activities (KAIZEN): Awareness reform activities—based on awareness of reducing costs—designed to develop individual and organizational strengths (skills and expertise) and autonomy, to make the Nippon Kayaku Group an energetic company.

Method for Identifying Key Sustainability Issues

To appropriately grasp issues facing the Nippon Kayaku Group from both internal and external perspectives and respond to the expectations and demands of stakeholders, starting in 2019 the Group has identified key CSR issues for its Medium-term Business Plan by incorporating various external perspectives, formulating a 2019-2021 Medium-term Business Plan CSR Action Plan and implementing related activities.

To coincide with the start of the new Medium-term Business Plan—**KAYAKU Vision 2025**—and the shift from CSR management to sustainable management, in April 2022, we changed the term "key CSR issues" to "key sustainability issues" and reviewed them in order to appropriately respond to the diversification of our business activities and various changes in social issues.

STEP 1

Recognition of themes

- We identified themes based on those identified in the GRI Standards on requirements demanded by our diversifying society, with the addition of the Group's previous key sustainability issues (KAYAKU Next Stage Medium-term Business Plan Key CSR Issues).

STEP 2

Creating point scores from internal and external opinions

- A. Point scores from external assessments
Industry-specific assessment standards for the Company from multiple international assessment bodies promoting responsible investment and SASB* industry-specific requirements were linked to key themes and converted into point scores as external evaluations.
- B. Point scores from internal assessments
The key themes of the Medium-term Business Plan for each internal business division and corporate division were linked to key themes and converted into point scores as internal evaluations.

* SASB: Sustainability Accounting Standards Board. A US-based non-profit organization that formulates and publishes industry-specific sustainability disclosure standards.

STEP 3

Mapping materialities

- The themes "strengthening corporate governance" and "thorough compliance" were identified as the most important issues for corporate survival, while other themes were mapped as materialities based on point-scored internal and external evaluations. Threshold values were added to a point-based map, with themes exceeding those values identified as materialities.

STEP 4

Validation and approval

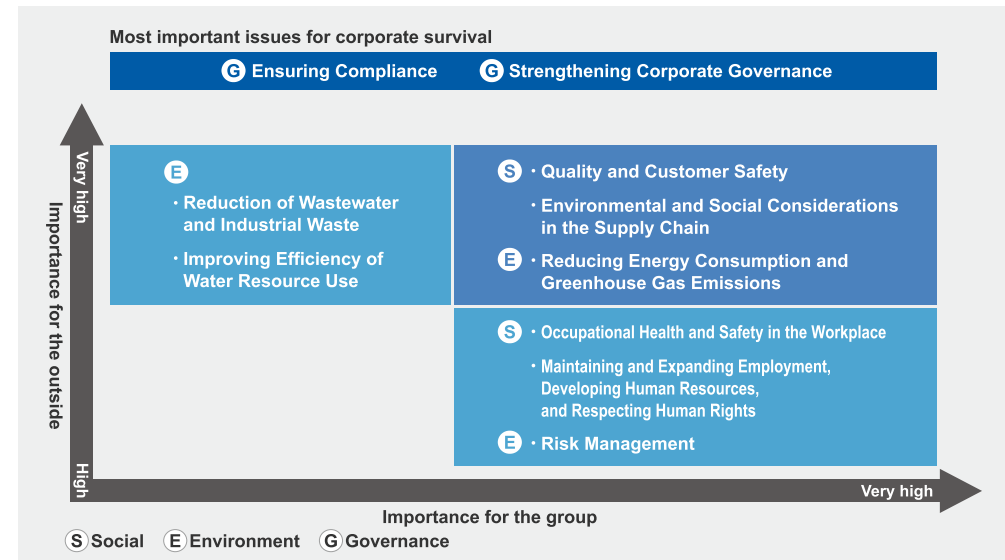
- The methods used for identifying materialities and results obtained were reviewed by the Sustainable Management Committee—one of the Company's decision-making bodies—while at the same time incorporating the opinions of experts in the field of sustainability, and approved after two sessions of discussions.

Key Sustainability Issues Initiatives and KPIs

The Nippon Kayaku Group has formulated a Sustainability Action Plan linking its business activities with the identified key sustainability issues. We also utilize the SDG Compass to link each materiality with one or more of the 17 SDGs. By implementing initiatives to achieve the KPIs in the Sustainability Action Plan, we will contribute to the achievement of the SDGs and the creation of a sustainable society.

Key Sustainability Issues

We have classified our key sustainability issues into three categories—most important issues for corporate survival, most important issues, and important issues—and established action plans for each issue.



Sustainability Action Plan

The Nippon Kayaku Group's Sustainability Action Plan utilizes the SDG Compass to link each key issue (materiality) with one or more of the 17 SDGs. By managing and disclosing the progress of KPIs every year and implementing sustainability activities, the Group aims to create environmental, social and economic value, help to achieve the SDGs (i.e., to create a sustainable society) and increase corporate value.

	Key sustainability issues	Corresponding SDGs	Action Plans	Indicators (KPI)	FY2025 targets	
Most important issues for corporate survival	Ensuring Compliance		<ul style="list-style-type: none"> Exercise thorough compliance, which is a basic principle for conducting corporate activities, and engaging in fair business operations Maintain and enhance an open corporate culture with a high sense of ethics 	Number of serious compliance violations* ¹	0	
				Compliance training rate	100%	
	Strengthening Corporate Governance		<ul style="list-style-type: none"> Strengthen corporate governance of the entire group and manage in a highly transparent and sound manner 	Number of times that the effectiveness of Board of Directors meetings is evaluated	Once per year	
				Number of times internal business audits are performed by the Audit Division	60 times in four years	
Most important issues	Quality and Customer Safety		<ul style="list-style-type: none"> Enhance our quality control and quality assurance systems by continuously improving our quality management system and ensuring thorough quality-related governance Implement quality management, improve production efficiency and reduce process abnormalities through digitalization 	Number of serious complaints by customers* ²	0	
				Number of serious flaws in processes* ²	0	
	Environmental and Social Considerations in the Supply Chain		 	<ul style="list-style-type: none"> Practice supply chain management with consideration for environmental and social aspects, based on the Sustainable Procurement Guidelines 	Response rate for confirmation of consent to Sustainable Procurement Guidelines	(Non-consolidated) 90%
					Formulation and implementation of improvement plans using questionnaires to suppliers	(Non-consolidated) Disclose progress

	Key sustainability issues	Corresponding SDGs	Action Plans	Indicators (KPI)	FY2025 targets
Most important issues	Reducing Energy Consumption and Greenhouse Gas Emissions Reduction of Wastewater and Industrial Waste Improving Efficiency of Water Resource Use	 	<ul style="list-style-type: none"> Implement energy-saving and global warming countermeasures and achieve FY2030 environmental targets Identify issues and clarify strategies for achieving carbon neutrality by FY2050 	Greenhouse gas emissions (Scope 1+2)	(Targets to be achieved by FY2030) 87,132 tons or less (32.5% reduction or higher compared with FY2019)
				VOC emissions	(Non-consolidated) Disclose results
				COD emissions	(Non-consolidated) Disclose results
				Total waste output	(Non-consolidated) Disclose results
				Recycling rate	(Non-consolidated) 80% or higher
				Zero emission rate	(Non-consolidated) 1% or less
				Goal setting in line with SBT and consideration and implementation of specific measures	Disclose progress
				Disclosure in line with TCFD recommendations	Disclose progress
				Develop products and technologies with consideration for environmental issues	Disclose progress
Important issues	Occupational Health and Safety in the Workplace	 	<ul style="list-style-type: none"> Strengthen the foundation for safe operation by thoroughly enforcing basic rules on safety and health and improving equipment and work procedures Implement health and productivity management and provide a workplace environment with a healthy work-life balance where employees can work with enthusiasm 	Number of serious accidents* ³	0
				Acquisition of certifications under the Certified Health & Productivity Management Outstanding Organizations Recognition Program (Large Enterprise category)	(Non-consolidated) Continued certification
				Percentage of paid leave taken	(Non-consolidated) 70% or higher
				Percentage of employees who take mental health training	(Non-consolidated) 100%
				Percentage of employees receiving regular health checkups	(Non-consolidated) 100%
				Ascertaining and improving employee satisfaction through questionnaire surveys	(Non-consolidated) Disclose progress

	Key sustainability issues	Corresponding SDGs	Action Plans	Indicators (KPI)	FY2025 targets
Important issues	Maintaining and Expanding Employment, Developing Human Resources, and Respecting Human Rights	 	<ul style="list-style-type: none"> Promoting diversity and inclusion through the recruitment of diverse human resources, effective HR assignment and exchanges Pass down and strengthen technical capabilities in monozukuri (manufacturing) and achieve globalization in human resources through ongoing human resource development Engage in business operations that pay care and consideration to the human rights of employees and all other people involved in the supply chain 	Percentage of female employees in management posts ^{*4} Percentage of employees with disabilities Amount invested in education and training per employee Training hours per employee Number of training sessions held on human rights Human rights due diligence: human rights impact assessment rate	(Non-consolidated) 10% or higher (Non-consolidated) Achieve legal minimum employment rate (Non-consolidated) Disclose results (Non-consolidated) Disclose results Once or more per year (Non-consolidated) FY2022: 100% (Consolidated) FY2025: 100%
	Risk Management		<ul style="list-style-type: none"> Respond to various business-related risks and ensure business continuity by maintaining production systems, ensuring the proper procurement of raw materials, and strengthening measures against disasters 	Implementation rate of risk control activities for business, etc., and top five risk control activities Number of BCP drills conducted	100% Once or more per year

*1 Number of serious accidents as judged by the Ethics Committee

*2 Losses of 10 million yen or more

*3 Accidents involving three or more people requiring time off work, or resulting in fatalities

*4 Targets for the end of FY2024

Results of the 2019-2021 Medium-term Business Plan CSR Action Plan

Please see below for the results of the 2019-2021 CSR Action Plan for the previous Medium-term Business Plan (KAYAKU Next Stage).

[▶ Results of the 2019-2021 Medium-term Business Plan CSR Action Plan](#)

Risks and Opportunities for Key Sustainability Issues

The Nippon Kayaku Group recognizes risks and opportunities relating to its identified key sustainability issues. By reducing risks and incorporating opportunities that lead to new business growth, we aim to help create a sustainable society and further increase corporate value.

	Key sustainability issues	Risks	Opportunities
Most important issues for corporate survival	Ensuring Compliance	Loss of social credibility due to compliance violations Damage to corporate value Sluggish business activities	Earning the trust of stakeholders
	Strengthening Corporate Governance	Stagnation of business activities	Earning the trust of stakeholders Improvement of social credibility
Most important issues	Quality and Customer Safety	Customer disaffection due to quality nonconformities Loss of social credibility due to violations of laws and regulations governing aspects such as quality control and labeling	Earning the trust of customers by supplying high-quality products
	Consideration for the Environment and Society in the Supply Chain	Adverse effects on corporate activities due to illegal acts or compliance violations by suppliers	Creation of a sustainable society Increased long-term competitiveness
	Reducing Energy Consumption and Greenhouse Gas Emissions	[Transition risks] <ul style="list-style-type: none"> Increased operating costs due to the impact of tougher emissions regulations Price increases for electric power and LPG, etc. Rise in raw material prices due to the impact of tougher emissions regulations Increase in costs for environmental disclosures and LCA calculations, etc. 	<ul style="list-style-type: none"> Growth of semiconductor-related materials and materials that contribute to achieving lower power consumption, due to the shift to smart cities and the growth of DX Growth of materials for next-generation storage cells / batteries Growth of plastic / resin-type materials that contribute to the weight reduction of vehicle / mobility frames
	Reduction of Wastewater and Industrial Waste	[Physical risks] <ul style="list-style-type: none"> Increase in costs due to flood damage caused by typhoons, heavy rain, high tides / storm surges, etc. Impact of water shortages on operations Decline in labor productivity due to rising temperatures 	<ul style="list-style-type: none"> Growth of optical materials for reducing the weight of EVs and sensor materials for use in autonomous driving technologies Growth of bio-stimulants which contribute to maintaining and improving agricultural productivity, and expanding applications for existing agrochemicals in tackling pests which become new problems as a result of the expected rise in temperatures
Important issues	Occupational Health and Safety in the Workplace	Loss of social credibility due to accidents and scandals Decline in labor productivity and outflow of human resources	Fostering a safety culture Improving employee work-engagement
	Maintaining and Expanding Employment, Developing Human Resources, and Respecting Human Rights	Standardization of thinking and loss of new business opportunities due to bias in human resource attributes and skills Loss of social credibility due to human rights violations	Fostering a corporate culture that generates new ideas through diversification of values Contributing to the creation of a sustainable society and increasing long-term competitiveness
	Risk Management	Increase in management-related risks	Ensuring business continuity in emergencies

Results of KAYAKU Next Stage Key CSR Issues (Materiality) Initiatives

Innovation through Business	Quality and Customer Safety	Business Partner Assessment	Energy Consumption and Greenhouse Gas
Wastewater and Waste	Efficient Use of Water Resources	Use of Materials that Contribute to Resource Conservation	Occupational Health and Safety in the Workplace
Compliance	Provision of Appropriate Information on Products and Services	Maintaining and Expanding Employment and Development of Human Resources	Respect for Human Rights and Assessment
Local Communities	Economic Performance	Strengthening Corporate Governance	Ensuring Business Continuity

Innovation through Business

Medium-term CSR Action Plan 2019-2021

- Business divisions will work as one team on pursuing R&D with an eye on exit to market, and create new products and businesses in core businesses and areas of synergy.
- Invest management resources in medium and long-term R&D themes while enhancing core technologies and meeting the future needs of society.



Indicators (KPI)	FY2021 targets	FY2021 results	Topics for FY2021 initiatives
Amount invested in R&D over three years	(Consolidated) ¥40 billion over 3 years	(Consolidated) ¥13 billion in FY2021 ¥36.5 billion (FY2019-FY2021)	<ul style="list-style-type: none"> • Decided to invest in Taiwan lab to expand resists for MEMS next-generation telecommunications and roll out semiconductor cleaners • Made progress in the development of inkjet ink for flexible packaging (film) (scheduled for launch in fiscal 2023) • Completed factory trial production of catalyst for the manufacture of completely green hydrogen using solar (heat) Sent prototype / sample to Australia for testing at a 500kW plant • Successful launch of NASA's James Webb Space Telescope equipped with an inorganic polarizer made by MOXTEK, contributing to space exploration • Started research on biotechnology and polymer technologies with partners in academia, etc. • Released new generic anti-cancer drug pemetrexed intravenous solution in liquid form enabling room temperature storage • Commercialized and launched parachute safety devices for drones • Expanded innovative agrochemical formulation themes, engaged in specific creation of new compounds and research outside the agrochemical field

Quality and Customer Safety

Medium-term CSR Action Plan 2019-2021

- Make ongoing improvements to the quality management system and work to strengthen local management capabilities, and create a stronger quality management and quality assurance system.
- Pursue quality management, improve the level of production technology and expertise, and work to reduce flaws in the process.



Indicators (KPI)	FY2021 targets	FY2021 results	Topics for FY2021 initiatives
Number of serious complaints by customers ^{*1}	(Consolidated) 0 complaints	(Consolidated) 0 complaints	<ul style="list-style-type: none"> • No serious complaints by customers • Functional Chemicals Group—which includes Fukuyama Plant, Asa Plant, Tokyo Plant, head office and research center, and Taiwan Nippon Kayaku—worked on integrated operation of QMS, and obtained ISO9001 integrated certification in July 2021
Number of serious flaws in processes ^{*1}	(Consolidated) 0 complaints	(Consolidated) 3 incidents	<ul style="list-style-type: none"> • Agrochemicals Group—which includes Kashima Plant and Agrochemicals Laboratories—worked on integrated operation of QMS, and obtained ISO9001 integrated certification in August 2021

^{*1} Losses of 10 million yen or more

Business Partner Assessment

Medium-term CSR Action Plan 2019-2021

- Practice supply chain management with consideration for environmental and social aspects, based on the CSR Procurement Guidelines

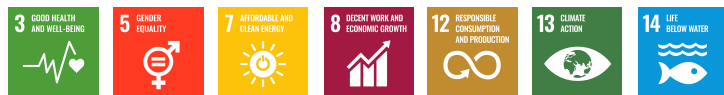


Indicators (KPI)	FY2021 targets	FY2021 results	Topics for FY2021 initiatives
Number of times assessments of main business partners are performed	(Non-consolidated) 50 times/year	(Non-consolidated) 7 times	<ul style="list-style-type: none"> • Following on from FY2020, on-site audits were not possible in many cases due to the impact of the COVID-19 pandemic, and the number of cases of shifting to web-based audits or written audits increased

Energy Consumption and Greenhouse Gas Wastewater and Waste Efficient Use of Water Resources Use of Materials that Contribute to Resource Conservation

Medium-term CSR Action Plan 2019-2021

- Pursue activities to save energy and combat global warming. Achieve the environmental targets for FY2020 and formulate targets for FY2030.
- Work to integrate ISO 14001 company-wide and advance environmental management that addresses both the risks and opportunities of environmental problems.



Indicators (KPI)	FY2021 targets	FY2021 results	Topics for FY2021 initiatives
Medium-term Corporate Master Plan for the Environment • Amount of CO ₂ emitted from energy sources	Targets to be achieved by FY2020 • (Non-consolidated) 79,500 tons or less	(Non-consolidated) 64,700 tons	<ul style="list-style-type: none"> • The scope of the new targets for Medium-term Corporate Master Plan for the Environment up to FY2030 was expanded from Nippon Kayaku (non-consolidated) to include group companies both in Japan and overseas, and the target was set at reducing greenhouse gas emissions (Scope 1+2) by 32.5% compared to FY2019. In FY2021 we planned to reduce emissions to 122,300 tons or less, and achieved the target with emissions of 112,400 tons • Support for the Task Force on Climate-related Financial Disclosures (TCFD) Recommendations • Figures for total waste produced will include emissions for the Joetsu Plant (2,000 tons) in Nippon Kayaku (non-consolidated) as of FY2021. Emissions at other plants increased by 3,200 tons due to increased production volume • With the group-wide promotion of recycling, the recycling rate has increased from 81.3% in FY2020 to 82.3%, and the zero emission rate has improved from 1.6% in FY2020 to 1.0%
• VOC emissions	• (Non-consolidated) 42.0 tons or less	(Non-consolidated) 52.1 tons	
• COD emissions	• (Non-consolidated) 150.0 tons or less	(Non-consolidated) 124.2 tons	
• Total waste output	• (Non-consolidated) 23,500 tons or less	(Non-consolidated) 28,400 tons	
• Recycling rate	• (Non-consolidated) 80% or higher	(Non-consolidated) 82.3%	
• Zero emission rate	• (Non-consolidated) 3% or lower	(Non-consolidated) 1.0%	
Company-wide integration of ISO 14001	Integration	Pending	

Occupational Health and Safety in the Workplace

Medium-term CSR Action Plan 2019-2021

- Strengthen the foundation for safe operation by thoroughly enforcing basic rules on safety and health and improving equipment and work procedures
- Implement health and productivity management and provide a workplace environment with a healthy work-life balance where employees can work with enthusiasm



Indicators (KPI)	FY2021 targets	FY2021 results	Topics for FY2021 initiatives
Number of serious accidents* ²	(Consolidated) 0 complaints	(Consolidated) 0 complaints	<ul style="list-style-type: none"> • Acquired certification for 2021 Certified Health and Productivity Management Organization (Large Corporate Division) • Introduced telecommuting system on a trial basis and reviewed staggered working hours system regulations • Collective mental health training was postponed due to the impact of the COVID-19 pandemic, with e-learning training implemented as an alternative
White 500 certification	(Non-consolidated) Maintain certification	(Non-consolidated) Acquired certification for 2021 Certified Health and Productivity Management Organization (Large Corporate Division)	
Percentage of paid leave taken	(Non-consolidated) 70%	(Non-consolidated) 59.8%	
Percentage of employees who take mental health training	(Non-consolidated) 100%* ³	Postponed collective training	
Percentage of employees receiving regular health checkups	(Non-consolidated) 100%	(Non-consolidated) 100%	

*2 Accidents resulting in time off work for three or more people simultaneously or accidents resulting in death

*3 Cumulative value for three years (FY2018-FY2020)

Compliance

Medium-term CSR Action Plan 2019-2021

- Exercise thorough compliance, which is a basic principle for conducting corporate activities, and engaging in fair business operations.
- Establish a basic policy on preventing corruption, and maintain and strengthen an open and honest corporate culture with high ethical values.



Indicators (KPI)	FY2021 targets	FY2021 results	Topics for FY2021 initiatives
Number of serious compliance violations*4	(Consolidated) 0 complaints	(Consolidated) 0 complaints	<ul style="list-style-type: none"> • No significant compliance violations • Nippon Kayaku Group Basic Policy on Combating Bribery established in June 2021, information distributed and policy rolled out at both domestic and overseas companies • Conducted training for all domestic group companies under the theme(s) of revision of regulations for handling of internal whistleblowing and establishment of the Nippon Kayaku Group Basic Policy on Combating Bribery
Formulation of a basic policy on preventing corruption	Formulation	Formulated	
Coverage ratio of companies implementing compliance training	(Domestic)100%	(Domestic)100%	

*4 Number of incidents deemed serious by the Ethics Committee or the Risk Management Committee

Provision of Appropriate Information on Products and Services

Medium-term CSR Action Plan 2019-2021

- Increase the presence of the Nippon Kayaku Group by complying with regulations in each business and providing appropriate information and technical services to customers.



Indicators (KPI)	FY2021 targets	FY2021 results	Topics for FY2021 initiatives
Regularly conducting customer satisfaction surveys	(Non-consolidated) Implementation	(Consolidated) Implementation	<ul style="list-style-type: none"> • In our Functional Chemicals Business, we provided customers with SDS and product labels that conform to national standards, and provided information on chemical substances and appropriate handling information to ensure the safe use of our products. In addition, we responded to various customer requests for surveys and provided appropriate survey results and information. We will review customer feedback, reflect it in our plans for the next fiscal year, and work toward continuous improvement. • In our Safety Systems Business, we set items contributing to customer satisfaction as business plans, quality policies, and targets based on responses to customer satisfaction surveys, and confirmed that they are maintained. • In our Agrochemicals Business, we have established a system for collecting harmful insects, evaluating effectiveness, and providing feedback to guidance agencies. We confirm the results of internal and external tests to verify the effectiveness of agrochemicals and check that they are reflected in local control guidelines.

Maintaining and Expanding Employment and Development of Human Resources

Medium-term CSR Action Plan 2019-2021

- Promoting diversity and inclusion through the recruitment of diverse human resources, effective HR assignment and exchanges
- Pass down and strengthen technical capabilities in monozukuri (manufacturing) and achieve globalization in human resources through ongoing human resource development.



Indicators (KPI)	FY2021 targets	FY2021 results	Topics for FY2021 initiatives
Percentage of female employees in management posts	(Non-consolidated) 8%*5	(Non-consolidated) 9.0%	<ul style="list-style-type: none"> The target for percentage of female managers is set at 10% for FY2024. In FY2021 the percentage was 9.0%, a year-on-year increase of 0.4% Continued collaboration with special support schools as an initiative to employ people with disabilities In addition to the existing job and rank-based training system, programs for developing human resources who can play active roles globally are being reviewed as a key company-wide theme
Percentage of employees with disabilities	(Non-consolidated) 2.3%	(Non-consolidated) 1.99%	
Amount invested in education and training per employee	(Non-consolidated) Note results only	(Non-consolidated) ¥57,000 / person	

*5 Target for the end of FY2020

Respect for Human Rights and Assessment

Medium-term CSR Action Plan 2019-2021

- Operate businesses in a manner that considers the human rights of employees and all people involved in the supply chain.



Indicators (KPI)	FY2021 targets	FY2021 results	Topics for FY2021 initiatives
Number of training sessions held on human rights	(Non-consolidated) Once a year or more	(Non-consolidated) Twice	<ul style="list-style-type: none"> Conducted training on the themes of human rights and portrait / publicity rights Nippon Kayaku Group Human Rights Policy adopted by the Board of Directors (established April 1, 2022)

Local Communities

Medium-term CSR Action Plan 2019-2021

- Actively communicate with local communities where our businesses are located and strive to co-exist and prosper together with them as a company rooted in the local community.



Indicators (KPI)	FY2021 targets	FY2021 results	Topics for FY2021 initiatives
Total number of informal community gatherings	(Consolidated) Publish results	(Consolidated) 26 times	<ul style="list-style-type: none"> Regional meetings were affected by the COVID-19 pandemic, and many business sites canceled meetings for the second consecutive year following on from FY2020, although meetings resumed at some business sites during the period when the pandemic calmed down. Due to the impact of the COVID-19 pandemic and the cancellation of many events as in 2020, expenditures on social contributions remained at a similar level
Expenditures on social contributions*6	(Non-consolidated) Note results only	(Non-consolidated) ¥154 million	

*6 Expenses for donations, Asunaro House activity expenses, plant festivals, and other local events

Economic Performance

Medium-term CSR Action Plan 2019-2021

- Generate stable profits and return profits to society while reinvesting profits efficiently as management capital to achieve sustainable growth and enhance corporate value.



Indicators (KPI)	FY2021 targets	FY2021 results	Topics for FY2021 initiatives
ROE	(Consolidated) 8%	(Consolidated) 7.3%	<ul style="list-style-type: none"> Despite the impact of global semiconductor shortages and other factors, the Company posted record sales, and profit increased 36.6% year-on-year to ¥17.1 billion In order to reduce capital equity, we repurchased 2 million treasury shares (¥3 billion) and cancelled 7 million treasury shares (¥8.1 billion)
Amount of tax paid	(Consolidated) ¥5.6 billion	(Consolidated) ¥4.0 billion	
Capital investments over three years	(Consolidated) ¥50.0 billion over three years	(Consolidated) ¥11.6 billion in FY2021	

Strengthening Corporate Governance

Medium-term CSR Action Plan 2019-2021

- Strengthen corporate governance of the entire group and manage in a highly transparent and sound manner.



Indicators (KPI)	FY2021 targets	FY2021 results	Topics for FY2021 initiatives
Number of times that the effectiveness of Board of Directors meetings is evaluated	(Non-consolidated) Once a year	(Non-consolidated) Once	<ul style="list-style-type: none"> Appointment a female Audit & Supervisory Board Member Introduced restricted stock compensation and reviewed officers' compensation system Amended Basic Policy on Corporate Governance in response to revisions to the Corporate Governance Code Created and disclosed a skills matrix Third party organization assessed the effectiveness of the Board of Directors
Number of times internal business audits are performed by the Audit Division	(Consolidated) 45 times over three years	(Consolidated) 18 times in FY2021	

Ensuring Business Continuity

Medium-term CSR Action Plan 2019-2021

- Respond to various business-related risks and ensure business continuity by maintaining production systems, ensuring the appropriateness of raw materials, and strengthening measures against disasters



Indicators (KPI)	FY2021 targets	FY2021 results	Topics for FY2021 initiatives
Implementation rate for the top five risk control activities	(Consolidated) 100%	(Consolidated) 100%	<ul style="list-style-type: none"> Departments of Nippon Kayaku (non-consolidated) and all Group companies both in Japan and overseas implemented top five risk control activities Domestic Group companies used a newly introduced emergency communication system, as a BCP drill in preparation for the occurrence of earthquakes Overseas, BCP drills conducted at Group companies in China were verified and instruction given using a web conferencing system Introduced telecommuting system on a trial basis, reviewed staggered working hours system regulations and encouraged the use of web conferencing systems as measures against the COVID-19 pandemic
Number of BCP drills conducted	(Consolidated) Once a year or more	(Consolidated) Twice	

Implementing Responsible Care

Message from the Executive Director in Charge

The Nippon Kayaku Group provides society with the best products, technologies and services with consideration for the environment, safety and quality not only in manufacturing processes but throughout the product lifecycle, from the procurement of raw materials to production, distribution, use, and disposal. The foundations for our business activities are safety and quality. We place top priority on the safety and health of every one of our employees, and work to prevent accidents and disasters. In addition to conducting systematic employee education and training, we anticipate potential hazards relating to daily work tasks and take proactive measures to ensure worker safety. We have also created a quality management system integrating both head office and plant locations. Going forward, we will work to further enhance our quality improvement activities and prevent customer complaints and process abnormalities.

In March 2022, we declared our support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). In addition to appropriately ascertaining and analyzing risks relating to climate change, we will incorporate them into our management strategy as opportunities and contribute to the realization of a sustainable society through our businesses. Based on the TCFD framework, we will disclose climate change-related information and engage in dialogues to enable better communication with all stakeholders.



Managing Director
Head of Technical Operations Group
Takao Izawa

The Declaration on Environment, Health and Safety, and Quality

The Nippon Kayaku Group, under the spirit of its corporate vision and Responsible Care*, has formulated The Declaration on Environment, Health and Safety, and Quality, in order to maintain and enhance its environmental protection, health and safety and quality assurance practices. We are also implementing this declaration using organized activities.

The Declaration on Environment, Health and Safety, and Quality

Enacted November 7, 1995

Amended May 22, 2017

The Nippon Kayaku Group, under its corporate vision of “KAYAKU spirit,” which calls for continuously providing society with the best products through ceaseless progress and the combined forces of our consciences, we will contribute to the realization of a sustainable society that safeguards the life and health of customers, and supports a comfortable life.

◆ Fundamental Policies

1. We will strive to maintain and improve the environment, people's health and safety across the entire product lifecycle, from R&D to production, distribution, sales, recycling, and disposal.
2. We will strive to conserve the environment by introducing and developing technologies that are useful toward reducing waste, carrying out the appropriate disposal of waste, conserving resources, conserving energy, and implementing global warming prevention measures.
3. We will actively provide business partners with information needed for the safe usage and handling of our products and for conserving the environment.
4. We will enhance the quality of not only products, but operating processes as well, and also work to enhance customer satisfaction.
5. We will heighten employee knowledge and skills through education and training and achieve our goal of zero pollution, zero injuries, zero accidents and enhanced quality.
6. We will disclose information so that stakeholders correctly understand our business activities and also strive to engage in dialogue with local communities and government authorities.

June 25, 2019

Nippon Kayaku Co., Ltd.

President and Representative Director

* Responsible Care: A voluntary initiative under which companies that manufacture or handle chemical substances actively work on ensuring an operation that is aware of the environment, safety and health throughout its entire value-chain; from product development through production, sales, consumption, and disposal of chemical substances. The initiative began in Canada in 1985, and has now spread to encompass activities at companies in over 50 countries around the world.

Responsible Care in the Nippon Kayaku Group

All Nippon Kayaku Group companies share a common mindset in efforts to prioritize safety above all and seek to prevent environmental and safety-related accidents and disasters, including compliance with laws and regulations not only domestically but also overseas. All Group employees engage in Responsible Care activities in line with the Declaration on Environment, Health and Safety, and Quality, working toward the realization of the KAYAKU spirit.

The Nippon Kayaku Group Responsible Care Policy was created based on policies to be continued from FY2019 onwards, with a focus on safety and health activities with a key emphasis on identifying unsafe behaviors through 30-second patrols and fixed-point observations; reviews of environmental health and safety checks with a key emphasis on risk assessments of machine safety; and targets aimed at decarbonization, to achieve the environmental targets of the new medium-term business plan by FY2030. Going forward, the Group will continue to conduct Responsible Care activities based on this policy.

Nippon Kayaku Group Responsible Care Policy

◆ 〈 Targets 〉

- Serious accidents / disasters: zero
- Serious environmental accidents / disasters: zero
- Serious traffic accidents: zero

◆ 1. Key issues in Responsible Care

- Bolstering 30-second patrols and implementing fixed-point observation
- Improving Scope 1 and 2 greenhouse gas emission intensity per unit production by 1% per annum through energy saving

◆ 2. Initiatives aimed at achieving zero accidents and disasters

- Diagnostic methods with an emphasis on risk assessments
- Fixed-point observations tailored to the characteristics of each business location
- Inspections and optimization of measures against heat stroke

◆ 3. Improvement of occupational health and safety in the workplace

- Optimization of RC progress tables and visualization of activity status
- Compliance with changes in national chemical substance management policies (voluntary management through risk assessments of chemical substances)
- Identifying and following up on high-stress workplaces through stress checks and organizational analysis
- Establishing a management system by creating a database of health check results (due to commence operation this fiscal year)
- Continuously obtaining Health & Productivity Management Outstanding Organizations certification
- Training and enhancement of disaster information communication systems

◆ 4. Activities to achieve environmental targets

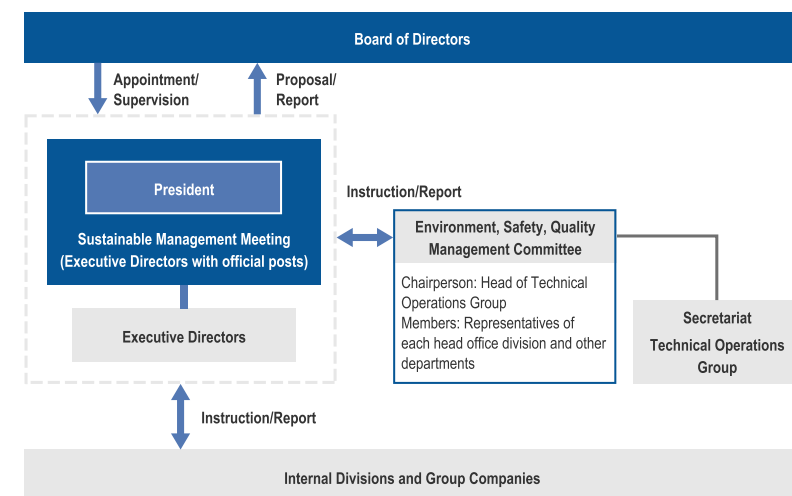
- Endorsing TCFD and making disclosures consistent with TCFD requirements
- Preparation to obtain SBT certification
- Appropriately operating a cloud-based environmental data aggregation system and establishing an emissions management system
- Establishing specific reduction targets based on CO₂ emissions reduction simulations
- Reviewing calculation methods for Scope 3 with a view to reductions
- Third-party verification of Scope 1+2+3 emission totals
- Response to the Plastic Resource Circulation Act
- Setting targets for reduction of plastic waste output

System

The Nippon Kayaku Group has established an Environment, Safety, Quality Management Committee as an expert committee of the Sustainable Management Meeting, chaired by the president. It strives to ensure environmental health and safety, and maintain and improve the Group's quality assurance activities. As an organizational activity, it conducts central environment, health and safety diagnostics and central quality assurance diagnostics conducted at business locations in Japan and overseas plants.

The Environment, Safety, Quality Management Committee is composed of the General Manager of the Production or Quality Assurance departments of each business division, and indirect head office departments. The committee deliberates on the following matters, and reports and makes recommendations to the Sustainable Management Meeting.

1. Drafting policies and strategy measures to resolve issues relating to climate change
2. Drafting policies and targets for Responsible Care and quality assurance
3. Checking the state of implementation of activities based on policies on climate change, responsible care and quality assurance, identifying problems with activities and checking the state of response



[Important Issues] Respect for Human Rights

Message from the Executive Director in Charge

Human rights are essential for the pursuit of happiness and prosperity of life for all, and we believe that fundamental human rights should be protected with the highest priority.

The Nippon Kayaku Group aims to bring happiness and delight to everyone involved with it. In conducting its business activities around the globe, the Group believes that consideration for human rights in accordance with international standards is the foundation of sustainable management. The Group has clearly listed respect for human rights in its Charter of Conduct and Code of Conduct, and engages in initiatives to ensure respect for human rights.

In 2021 we signed the United Nations Global Compact (UNGC) and declared our participation in it. In 2022 we established the Nippon Kayaku Group Human Rights Policy with the aim of further promoting initiatives to ensure respect human rights throughout the Group. Going forward, we will continue to fulfill our responsibilities to respect human rights in all of our corporate activities.



Managing Director and Member of the Board
Head of Administration Group
Hiroshi Mikami

Human Rights Policy

Nippon Kayaku Group Human Rights Policy

The Nippon Kayaku Group recognizes its responsibility to protect the human rights of all people affected by its business activities.

To that end, the Nippon Kayaku Group hereby establishes the Nippon Kayaku Group Human Rights Policy (the "Policy") based on the United Nations Guiding Principles on Business and Human Rights, with the purpose of promoting initiatives to ensure respect for human rights throughout the Group.

The Nippon Kayaku Group aims to meet the expectations of its stakeholders and contribute to society through its business operations as part of its corporate vision, the **KAYAKU spirit**. As a standard of conduct to realize the **KAYAKU spirit**, the Nippon Kayaku Group has established a Nippon Kayaku Group Charter of Conduct, Code of Conduct, and Group Action Guidelines. In all of its corporate activities, the Group respects fundamental human rights, complies with laws and regulations, engages in fair business activities and responds to the trust of all stakeholders with the aim of providing happiness and delight.

◆ 1. Basic policy on human rights

This Policy is a promise that the Nippon Kayaku Group will respect human rights, in order to earn the trust of all stakeholders based on its corporate vision, the **KAYAKU spirit**. The Nippon Kayaku Group will support and respect international norms relating to human rights, including the United Nations International Bill of Human Rights (Universal Declaration of Human Rights (UDHR), International Covenant on Civil and Political Rights (ICCPR), and International Covenant on Economic, Social and Cultural Rights (ICESCR)) which provides for the fundamental human rights of all people, and the International Labour Organization (ILO) Fundamental Principles and Rights at Work, which provides for fundamental rights at work. As a signatory to the United Nations Global Compact (UNGC), the Nippon Kayaku Group also supports and respect the ten principles of the UNGC.

◆ 2. Respect for human rights through business activities

The Nippon Kayaku Group will not tolerate discrimination or harassment based on differences in gender, age, nationality, race, religion, disability, place of origin, ancestry, creed, political views, marital status, employment status or other differences. The Nippon Kayaku Group will not tolerate child labor, forced labor or unfair low-wage labor.

◆ 3. Scope of application

This Policy applies to all officers and employees of the Nippon Kayaku Group. The Nippon Kayaku Group requires all business partners involved with its business activities, products and services to comply with this Policy.

◆ 4. Responsibility to respect human rights

The Nippon Kayaku Group recognizes that it cannot completely eliminate the possibility of adverse impacts on human rights in its business activities. The Nippon Kayaku Group will fulfill its responsibility to respect human rights and build a responsible supply chain by not infringing on the human rights of those affected by its business activities and by taking appropriate measures to correct any adverse impact on human rights in its business activities.

◆ 5. Human rights due diligence

The Nippon Kayaku Group will establish a system to ensure human rights due diligence, identify adverse impacts of the Group on human rights in society, and strive to prevent and mitigate such impacts.

◆ 6. Dialogue and consultation

In implementing this Policy, the Nippon Kayaku Group will utilize independent expertise on human rights from external experts and engage in sincere dialogue and consultation with stakeholders.

◆ 7. Education and training

The Nippon Kayaku Group will provide appropriate education and training to ensure that this policy is incorporated and effectively implemented in all of its business activities.

◆ 8. Access to remedy

If it is found that the Nippon Kayaku Group's business activities have caused an adverse impact on human rights, or if involvement through business partners is discovered or suspected, the Company will conduct an appropriate investigation and, if necessary, work to remedy the situation through dialogue based on international standards and appropriate procedures.

◆ 9. Person responsible

The Nippon Kayaku Group shall clearly specify an officer in charge of the implementation of this policy and supervise the state of its implementation.

◆ 10. Information disclosure

The Nippon Kayaku Group will disclose the progress and results of its efforts to respect human rights on its website, and by other means.

◆ 11. Applicable laws and regulations

The Nippon Kayaku Group will comply with the laws and regulations of each country or region in which it conducts its business activities. In the event of any conflict between the laws and regulations of individual countries and internationally recognized human rights, the Group will pursue ways to respect international human rights policies to the fullest possible extent.

This policy is adopted by the Company's Board of Directors and signed by its President and Representative Director.

Established April 1, 2002
Nippon Kayaku Co., Ltd.
President and Representative Director

System

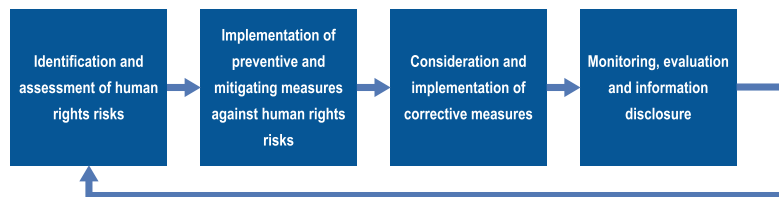
As a system to ensure respect for human rights and thorough compliance, the Nippon Kayaku Group has established an Ethics Committee chaired by the head of the Administration Group and composed of the General Managers of each head office division. The Ethics Committee determines policies and specific measures related to compliance with the Nippon Kayaku Group Charter of Conduct and Code of Conduct, and considers and decides how to respond to consultations and incidents that have occurred, and measures to prevent recurrences.

A human rights due diligence system is being established based on the Nippon Kayaku Group Human Rights Policy, by coordination with relevant departments under the responsibility of the head of the Administration Group, and with the Sustainability Promotion Department of the Corporate Planning Division as the administrative office.

Agenda items relating to human rights are approved by the Sustainable Management Meeting before submission for discussion and reporting at Board of Directors meetings.

Human Rights Due Diligence

In accordance with the Nippon Kayaku Group Human Rights Policy, the Group has formulated an action plan for human rights as one of its key sustainability issues. By managing and disclosing progress every year, we will establish a human rights due diligence process and implement activities throughout the Group. Since FY2021, we have been conducting human rights impact assessment surveys of primary and secondary suppliers. In FY2022, we will gradually expand the scope of these surveys to each domestic business site. From FY2023 onward, we will expand the scope to Group companies both in Japan and overseas, and evaluate risks, make improvements, and take corrective measures.



Initiatives

Education and Training

The Nippon Kayaku Group conducts annual training on human rights, to share its awareness of the importance of respecting the human rights of all stakeholders involved in business activities with all officers and employees. In determining the content of training, we refer to the Human Rights Policy, harassment prevention guidelines, revisions to laws and regulations, and the results of compliance awareness surveys.

In FY2021, in preparation for the establishment of the Nippon Kayaku Group Human Rights Policy, we conducted e-learning training on topics including human rights issues, specific human rights that companies should respect and their scope, and human rights initiatives required of companies. (Participation rate: 83% as of March 2022)

To coincide with the start of the new Medium-term Business Plan **KAYAKU Vision 2025**, we also prepared a booklet that includes an explanation of the Nippon Kayaku Group Human Rights Policy and distributed it to all employees of the Group in Japan. The booklet will also be translated into the local languages of each overseas business site and distributed accordingly.

Consideration for Human Rights in Sustainable Procurement

In order to encourage initiatives to respect human rights throughout the supply chain, the Nippon Kayaku group has established Sustainable Procurement Guidebook based on the Nippon Kayaku Group Charter of Conduct and Code of Conduct, Basic Procurement Principles and Basic Procurement Policies, and is distributing them to its suppliers. We are also working to promote sustainable procurement together with our suppliers by collecting written confirmation of their consent to these Sustainable Procurement Guidelines, and formulating and implementing improvement plans using questionnaire surveys of suppliers.

> [Environmental and Social Considerations in the Supply Chain](#)

Establishment of a Whistleblowing and Consultation Hotline

The Nippon Kayaku Group has established a Compliance Hotline and a Compliance Hotline for Suppliers, with the aims of detecting and preventing legal violations and ethical violations at an early stage (including responses to human rights issues) and enhancing the transparency and fairness of management.

The Compliance Hotline is open to all domestic Nippon Kayaku Group officers, employees and retirees (within one year after retirement). When making a report or consultation, users can choose to contact either the Ethics Committee administration office (Compliance Department, Internal Control Management Division) or an external law firm.

The Compliance Hotline for Suppliers is open to all officers and employees of suppliers who have dealings with the domestic Nippon Kayaku Group. The point of contact for reports and consultations is the Ethics Committee administration office (Compliance Department, Internal Control Management Division).

Both of these hotlines function as systems that ensure confidentiality and anonymity, and whistleblowers will not suffer disadvantageous treatment as a result of reporting or consulting.

> [Whistleblower System](#)

> [Compliance Hotline for Suppliers](#)

Stakeholder Engagement

Policy and Basic Approach

The Nippon Kayaku Group aims to be a company that can respond to the trust of all its stakeholders—including employees, customers, suppliers, shareholders and investors, and local communities—and provide happiness and delight. We value dialogue with stakeholders and use a variety of opportunities and communication tools to continuously and appropriately disclose information and engage in two-way communication to improve our business activities. Looking ahead, in addition to meeting the expectations and demands of our stakeholders, we will continue to fulfill our responsibilities to society through our business activities.

Stakeholders of the Nippon Kayaku Group



Stakeholders	Overview of the Initiative	Methods of communication
Employees	<p>We believe that the central players in all corporate activities are people: human resources. We respect the human rights of each and every employee and strive to create a workplace environment where employees can work with security and peace of mind. We aim to be a company where employees can feel their own growth and workplace motivation (job satisfaction) through work.</p>	<ul style="list-style-type: none"> Talent Management System Training to improve employee engagement * Fostering a rewarding and comfortable working environment using the above Compliance awareness surveys, mental health checks Internal newsletters Compliance Hotline Discussions with labor unions
Customers	<p>We strive to gain the trust and satisfaction of our customers by pursuing high quality and providing the best products, technologies and services with care and consideration for both social and environmental issues.</p> <ul style="list-style-type: none"> Users of resins, colorants, catalysts and optical films / materials Healthcare professionals and patients Automotive module manufacturers Agrochemical manufacturers, wholesalers and retailers, agricultural cooperatives 	<ul style="list-style-type: none"> Confirmation of needs through sales activities Improvement of products and services Plant / factory tours Provision of information via our websites Customer satisfaction surveys Safety guidance on agrochemicals and suggestions on pest control methods
Suppliers	<p>Together with our suppliers, we promote sustainable procurement in all aspects of the supply chain, from research and development to the procurement of raw materials, manufacturing, sales, and logistics, with consideration for respect for human rights and various other issues including environmental conservation, industrial health and safety, legal compliance and fair transactions.</p>	<ul style="list-style-type: none"> Purchasing briefings, visits, online meetings / interviews, exchanges of information through day-to-day business negotiations, etc. Questionnaire surveys
Shareholders and Investors	<p>We have established a Disclosure Policy and are working to ensure that shareholders and investors can appropriately understand the Company's business situation and various initiatives—by disclosing information in a timely, fair and impartial manner.</p>	<ul style="list-style-type: none"> Financial Results Briefing General meetings of shareholders Telephone conferences One-on-one meetings Provision of information via websites and integrated reports
Local Communities	<p>We have established business locations around the world and act as a member of each local community. In addition to social contribution activities, we contribute to the sound, sustainable development of local communities such as by actively supporting the development of the next generation and exchanging information with local governments.</p>	<ul style="list-style-type: none"> Social contribution activities (plant festivals, cleaning activities) Plant tours Support for development of the next generation Exchange of information with local governments

Instilling the KAYAKU spirit within the Company

The Nippon Kayaku Group is engaged in various initiatives to deepen employee understanding of its corporate vision and sustainable management policies, and to ensure that they are instilled throughout the entire Group.

So far, booklets containing the corporate vision and Group Action Guidelines have been translated into eight languages and distributed at each business site.

In FY2022, to coincide with the start of the new Medium-term Business Plan KAYAKU Vision 2025, we prepared an explanatory booklet detailing our corporate vision, sustainable management, the Medium-term Business Plan and the Nippon Kayaku Group Human Rights Policy and distributed it to all employees of the Group in Japan. The booklet will also be translated into the local languages of each business site and distributed accordingly.

We also promote understanding and instillation among employees by utilizing various opportunities and communication tools, such as the Nippon Kayaku Group Corporate Strategy Meeting and Medium-term Corporate Strategy Meeting, collective training such as training for new employees and training for newly appointed managers, e-learning, and internal newsletters.

We aim to achieve a sense of unity in group management by sharing our corporate vision and sustainable management policies among Group employees working in manufacturing, development, sales and management in various business categories around the world.



KAYAKU spirit Promotion Efforts Using Kayakuma the Bear

We have created a mascot character called Kayakuma the Bear, to make KAYAKU spirit a concept that is more familiar to all Nippon Kayaku Group employees around the world. This character appears in the section of our internal newsletter where we introduce our sustainability activities and exemplary activities for implementing our corporate vision, using visual depictions that are easy to understand for all audiences. The mascot has also been incorporated into our daily stationery, including memo pads and clear file folders, and even the designs of our conference rooms. This ensures our employees are always aware of Kayakuma the Bear, and in touch with our corporate vision in all aspects of their work. We have filed for a trademark for Kayakuma the Bear and utilize the character widely as a symbol of the Nippon Kayaku Group in newspaper ads and on novelty items at company events such as factory festivals.

> [Kayakuma's Room](#)



Kyakuma the Bear, a mascot character



Conference room and employee locker

Communication with Shareholders

The Nippon Kayaku Group holds the Ordinary General Meeting of Shareholders every June as an opportunity for communicating with its shareholders.

To provide our shareholders with business reports and voting resolutions in an easy-to-understand fashion, we are producing meeting notices in visual formats and providing English-language meeting notices on our Company website, sending out meeting notices at an earlier stage and providing electronic disclosure. For the Ordinary General Meeting of Shareholders in June 2022, a notice of convocation was sent 21 days prior to the date of the meeting. Prior to sending the printed notice, a notice of convocation was also disclosed digitally on the Company's website 28 days before the date of the meeting.

We are also trying to make it easier for our shareholders to exercise their voting rights by installing an electronic voting system whereby shareholders may cast their votes using PC or smartphone, as an alternative to paper voting forms.

In addition, we send out a shareholder newsletter every six months so that our shareholders can stay informed about our businesses and other topics.

> [Notices of convocation of the Ordinary General Meeting of Shareholders, etc.](#)

> [Shareholders' newsletters](#)



General meeting of shareholders

Communication with Institutional Investors and Securities Analysts

Holding IR Meetings and Telephone Conferences about Financial Results

The Nippon Kayaku Group holds quarterly IR meetings about financial results for institutional investors, securities analysts and media personnel. During the COVID-19 pandemic, meetings have been held by means such as telephone conferences and a combination of actual venues and online meetings. At the briefing to explain the financial results for the fiscal year ended March 31, 2022, which was attended by all executive officers, we presented full-year financial results, forecasts of financial and non-financial results, explained the policies of the New Medium-term Business Plan KAYAKU Vision 2025 (KV25) and held a question and answer session.



Briefing on financial results for the fiscal year ending March 31, 2022, held both at an actual venue and remotely

One-on-one Meetings

The Nippon Kayaku Group holds one-on-one meetings that communicate directly with institutional investors and securities analysts. Through these dialogues we strive to deepen their understanding of business conditions, management policies, ESG, and other issues.

Round-table IR Conferences and Open House Tours at Plants

We host round-table IR conferences, open house tours of our plants and R&D briefings for institutional investors and securities analysts, to promote deeper understanding of the Nippon Kayaku Group's businesses.

Website Development and Enhancement

The Nippon Kayaku Group website provides information on the Group's businesses and products, IR, sustainability and company information, etc.

We post information in a timely manner on our shareholder and investors' information pages, including details of our business content, management and financial policies, quarterly financial results briefings, integrated reports and shareholders' newsletters.

> [Investor relations information](#)

Participation in External Initiatives

The Nippon Kayaku Group believes that it is important not only to comply with international norms but also to cooperate with various organizations and other companies in initiatives in the field of ESG (environment, social, and governance), and participates actively in such initiatives.

External Initiatives We Participate in

Name	Timing / period of participation	Scope	Relationship with corporate philosophy and background to approval
 United Nations Global Compact WE SUPPORT UN GLOBAL COMPACT	2021	Whole group	Based on the KAYAKU spirit —the Nippon Kayaku Group's Corporate Vision—we are working to create environmental, social and economic value by engaging in sustainable management, create a sustainable society, and increase our corporate value. By incorporating the ten principles of the United Nations Global Compact, in the four fields of Human Rights, Labour, Environment and Anti-Corruption into daily operations and strategies, we expect each company to proactively engage in sustainability promotion activities. As a responsible company, the Nippon Kayaku Group supports the ten principles and works to resolve social issues in order to contribute to the sound globalization and the creation of a sustainable society.
 TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES	2022	Whole group	The Nippon Kayaku Group has set forth a basic sustainable management policy in its Medium-term Business Plan KAYAKU Vision 2025 (KV25) , starting as of FY2022. By pursuing the creation of environmental, social and economic value in responding to climate change, the Group will work to help create a sustainable society and further increase its corporate value. The social impact of responses to climate change is significant, and the Nippon Kayaku Group considers it to be an important issue. In March 2022, we declared our support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). To communicate well with a wide range of stakeholders, we actively disclose information on Governance, Strategy, Risk Management, and Metrics and Targets—based on the TCFD recommendations framework. This approach is consistent with the Nippon Kayaku Group's Basic Policy on Sustainable Management. Going forward, we will accelerate our efforts to reduce greenhouse gases emissions and build a recycling-oriented society, in line with the TCFD recommendations.
 Responsible Care Global Charter Responsible Care® OUR COMMITMENT TO SUSTAINABILITY	2008	Japan	The Nippon Kayaku Group signed the Responsible Care Global Charter in 2008, and also signed the revised Global Charter in 2014. As a Group, we handle numerous chemical substances and develop, manufacture, and sell a large number of chemical products. We will continue to engage proactively in Responsible Care activities in order to realize the KAYAKU spirit —the Nippon Kayaku Group's Corporate Vision—of continuously providing society with the best products through ceaseless progress and the combined forces of our consciences.

Main Membership Qualifications

Name	Time of enrollment	Membership qualifications	Activities
KEIDANREN (Japan Business Federation)	1946	Permanent secretary	The Nippon Kayaku Group endorses and participates in KEIDANREN's purpose of contributing to the autonomous development of the Japanese economy and the improvement of people's lives. We also participate in the Board of permanent secretaries, the Administrative Reform Promotion Committee, the Social Security Committee, and the Diversity Promotion Committee. We contribute to the construction of a sustainable society and economy by expanding diverse interactive relationships that transcend the boundaries of specific industries, and by making wide use of the knowledge and experience of the economic community.
Japan Chemical Industry Association	1948	Trustee General Steering Committee member	Yasusaburo Hara, the third president of Nippon Kayaku, served as the first chairperson of the Japan Chemical Industry Association for over 14 years, from its founding in 1948. Yasusaburo Hara laid the foundation for the post-war reconstruction of the chemical industry and paved the way for the introduction and development of the petrochemical industry, which would play a key role in Japan's period of rapid post-war economic growth. We carry on the will of Yasusaburo Hara by contributing to the further development and improvement of the chemical industry.
Japan Dyestuff and Industrial Chemicals Association (JDICA)	1948	Trustee	Yasusaburo Hara, the third president of Nippon Kayaku, served as the first chairperson of Japan Dyestuff and Industrial Chemicals Association (JDICA) for 33 years, starting in 1948. We carry on the will of Yasusaburo Hara by contributing to formulation, promotion, investigation and research into policies on safety, the environment, internationalization and business support in the chemical industry.
Japan Pharmaceutical Manufacturers Association (JPMA)	1968	Council member	The Nippon Kayaku Group endorses and participates in JPMA's aim of contributing to the improvement of the health and medical care of people in Japan and around the world through the development of innovative and highly useful pharmaceuticals, and the sound development of the pharmaceutical industry. As a drug discovery-type pharmaceutical company, we contribute to the sound development of the pharmaceutical industry through the creation and implementation of visions for code compliance, distribution optimization, promotion, clinical evaluation, PMS, quality, pharmaceutical regulatory affairs, and R&D.
Japan Biosimilar Association	2016	Trustee company Chairman	The Japan Biosimilar Association was launched in April 2016 by four companies involved in the biosimilars businesses, with the aim of spreading and promoting biosimilars. Nippon Kayaku participates actively as one of the founding members. Through the Japan Biosimilars Association, we contribute to controlling medical expenses by making recommendations and exchanging information with stakeholders, including government, and to improving treatment access for patients who are hesitant to use bio-pharmaceuticals for economic reasons.

Name	Time of enrollment	Membership qualifications	Activities
The Pharmaceutical Manufacturers' Association of Tokyo	1948	Trustee	<p>The Pharmaceutical Manufacturers' Association of Tokyo is made up of all manner of pharmaceutical manufacturers and manufacturers of new drugs, generics and OTCs, etc.</p> <p>As a pharmaceutical company in eastern Japan, we contribute to the improvement of medical care through the review and exchange of information on regulatory affairs, intellectual property, drug safety, and education and training.</p>
Japan Investor Relations Association	1993	Council member	<p>Nippon Kayaku participates in the collection of information and the creation of a network among IR representatives, with the aim of improving the quality of IR activities.</p> <p>We strive to achieve better communication with shareholders and investors and to improve credibility in financial and capital markets.</p>

Highlight

Innovation through Business	31
Data Highlights	37

Innovation through Business

Nippon Kayaku Group Products and Technologies for Creating a Sustainable Future

The Nippon Kayaku Group aims to be a company that is essential to the world, by developing high value-added products based on "Global SUKIMA Ideas" which may even come to prominence in niche areas. We contribute to the resolution of social issues by providing the best products, technologies and services for the creation of a sustainable society.

Catalysts

Development of Catalysts that Contribute to the Realization of a Hydrogen Society

In the Catalysts business, we work on developing catalysts that contribute to the creation of a hydrogen society.

◆ External Environment Factors

The number of large-scale disasters due to extreme weather events has increased, which seems to be caused by global warming derived from ever-increasing amount of carbon dioxide and other greenhouse gasses generated by the consumption of fossil fuels such as petroleum and coal. Under these circumstances, there is a need for the development of new energy sources that do not emit greenhouse gases.

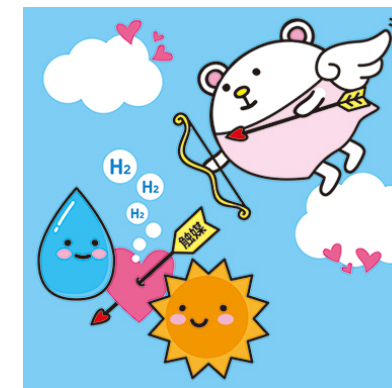
In recent years, hydrogen has been attracting attention as a clean energy source because it does not emit carbon dioxide on combustion. Hydrogen supply is expected to be stable and to be used for various applications such as fuel cells for automobiles and power generators.

◆ Innovation and Novelty

For producing hydrogen using catalysts, we focus on an environment-friendly method that thermochemically decomposes water by concentrating sunlight and solar heat in a reaction field where water vapor and catalysts coexist. This method is characterized by its ability to use renewable energy and to generate cost advantages by employing a three-dimensional reaction field.

In October 2021, taking advantage of our expertise and technology, we developed a catalyst for hydrogen production and provided its prototype to a pilot plant. Together with our partners, we plan to produce hydrogen at this plant, and complete the acquisition of initial data including economic efficiency by the end of FY2022, aiming for practical application around 2025.

Furthermore, discussions are underway for the development of catalysts for hydrogen carriers which enable efficient storage, transport and extraction of hydrogen by significantly reducing its volume. We continue to explore how we make most of our catalyst technology and contribute to the entire hydrogen energy system.



◆ Environmental and Social Value

Hydrogen can make a significant contribution to the fight against global warming as an energy source that does not emit carbon dioxide when combusted. In addition, hydrogen can be produced and procured from a variety of resources, thus contributing to energy diversification and energy security.

◆ Contribution to the SDGs



◆ Relation to *KV25* Materiality

- > [Company-wide material issues: Mitigation of Climate Change](#)
- > [Key sustainability issues: Reducing Energy Consumption and Greenhouse Gas Emissions](#)

Polatechno Business (MOXTEK)

Portable X-ray Sources for Border and Airport Security

The Mox140G is a compact, lightweight, portable X-ray source that can operate at a high voltage potential of 140kV. It is ideally configured for portable X-ray backscatter imaging, and is used particularly in the security market, such as for border security and airport security applications.

◆ External Environment Factors

Demand for security screening equipment is increasing due to recent increases in terrorist attacks and illegal immigration, increases in the deployment of security solutions for border and airport security applications, and increases in narcotics smuggling.

◆ Innovation and Novelty

The security market demands solutions that can see through a variety of objects, including backpacks, car seats, tires, and exterior metal panels. Seeing through thick objects or objects made of heavy elements such as iron by X-ray backscattering requires an X-ray source that can emit higher energy X-rays. In order to emit high-energy X-rays, the X-ray source must operate at a high voltage, but using a high-voltage X-ray source tends to make the device larger and more cumbersome. Having a small, lightweight, portable X-ray source can greatly reduce restrictions on the range of locations where inspections can be conducted. The Mox140G has a major advantage in the security market because it is portable in size and weight, yet can operate at a high voltage of 140kV.



Portable X-ray backscatter imaging
* Image used courtesy of Viken Detection.

◆ Environmental and Social Value

Use of the Mox140G significantly reduces illegal financing, narcotics and weapons trafficking, and contributes to the eradication of all forms of organized crime, including terrorism.

◆ Contribution to the SDGs



◆ Relation to **KV25** Materiality

> [Company-wide material issues: Creation of New Business and Products](#)

Polatechno Business (MOXTEK)

Environmental Monitoring by XRF (X-ray Fluorescence)

MOXTEK offers high-performance, high-durability X-ray sources, highly durable window materials with high X-ray transmittance, and competitively priced detectors—all key parts of XRF analysis devices.

◆ External Environment Factors

There is growing social interest in safety, such as in the regulation of environmental pollutants (heavy metals, etc.) Devices for use at scrap sorting sites (for the purpose of mineral recycling) and soil testing sites must be easily portable (lightweight) and enable inspections to be completed very rapidly.

◆ Use

Common applications of XRF include the analysis of petroleum and other fuels, plastics, rubber and textiles, pharmaceuticals, food products, cosmetics and body care products, fertilizers, geological materials, mining samples, slag, cement, heat-resistant materials, and glass. XRF is also used for monitoring contaminated solid waste, wastewater, cleaning fluids, pools and filters, as can also be used for sorting materials such as minerals with high speed and accuracy. A selection of detectors is also available depending on the usage environment, ranging from bench-top to handheld types. XRF is widely used at laboratories, various facilities, outdoors, and at various sites in the field.

◆ How XRF (X-ray Fluorescence) Works

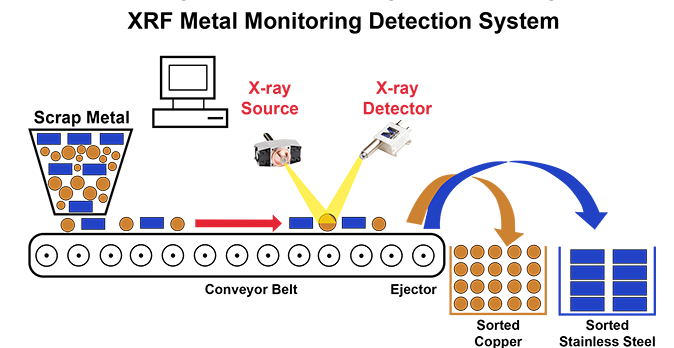
When X-rays are fired at an object, X-rays with energies specific to the elements that make up that object are returned. The X-ray detector analyzes the elemental composition of the object based on the energies of these returned X-rays. This method of elemental analysis can be used for all basic states of matter (solids, liquids and gases), and is one of the techniques used in day-to-day analysis.

◆ Innovation and Novelty

MOXTEK offers high-performance, high-durability X-ray sources, highly durable window materials with high X-ray transmittance, and competitively priced detectors—all key parts of XRF analysis devices. The handheld Magnum (a lightweight, compact X-ray source), window coverings with DuraCoat technology offering superior performance in harsh environments, and customer-friendly XPIN detectors are used in a range of applications, including environmental monitoring and material sorting.



Soil tests



Material sorting

◆ Environmental and Social Value

Through rapid elemental analysis, we can analyze the environment in which we live and contribute to a more comfortable and livable global environment. In sorting of materials for recycling, XRF sorts more materials faster. MOXTEK pursues and provides even higher performance parts for an earth-friendly environment.

◆ Contribution to the SDGs



◆ Relation to *KV25* Materiality

> [Company-wide material issues: Creation of New Business and Products](#)

Safety Systems Business

PARASAFE

◆ Outline of Products and Services

PARASAFE® ("PARASAFE") is an emergency parachute system for industrial-use drones. When a drone is about to fall due to unforeseen circumstances, the PARASAFE system fires a parachute to slow the drone's speed of descent and reduce the shock of impact upon collision with the ground. The Nippon Kayaku Group is a global supplier of explosives and gas generators for automotive airbags, and PARASAFE uses the same technology as automotive safety components that achieve high reliability. Using PARASAFE enables safe and secure use of drones.

◆ Innovation and Novelty

PARASAFE and its use combine know-how cultivated in the pyrotechnics safety and automotive safety components businesses, which Nippon Kayaku has inherited from the time of its founding, and our new specialist technologies.

1. Pyrotechnics safety: industrial explosives are excellent materials that generate constant energy, instantaneously and reliably. However, one wrong step in handling these explosives can lead to a major accident or disaster. Having been involved with explosive products for many years since our founding, our thorough knowledge of their properties and safe handling is a major advantage for Nippon Kayaku.
2. Development capability for high-performance parts: Our advantage lies not only in our ability to develop materials, but also safety components combining high performance with reliability and durability. We make all parts ourselves, leveraging know-how cultivated through the development of automotive safety components, such as material component shape design, simulations of movement during operation, and prototype construction and evaluation.
3. Sensing programming technology: A device called ATS (Autonomous Triggering System) is required to detect dangerous drops in altitude and activate safety components. We are also working to deliver an ATS that is optimal for PARASAFE operation, such as selecting necessary sensors from drone flight data and simulations, and developing operating programs for safety components.



◆ External Environment Factors

- Looking ahead, industrial drones are expected to play an active role in various applications such as logistics, inspection, measurement and surveying, and disaster relief operations to create a more convenient society. In Japan, we plan to take a step toward practical application by FY2022 with the enactment of Level 4 legislation for unmanned aerial vehicles (flight outside of visual sight, without assistance, in populated areas).
- Industrial drones are expected to achieve rapid widespread use in the future, and the overall market scale for airframes, peripheral devices, and services for logistics and inspection applications which are the key target markets for PARASAFE is expected to reach 250 billion yen by 2025.
- As a new initiative, the development of flying cars is also underway as the next advancement in air mobility through the application of drone technologies, and the exploration of new social concepts shifting from logistics and inspection applications to transporting people has begun.

As described above, the scope of business relating to aerial drones is rapidly increasing.

At the same time, ensuring safety is the most important factor, and it is necessary to take appropriate measures.

◆ Environmental Value

- When a drone falls during flight at sea, in some cases it may lead to marine pollution due to the scattering of materials being transported, or gasoline from hybrid drones themselves. Even in such cases, marine pollution can be prevented through the use of PARASAFE.
- When a drone falls while flying in the mountains, in some cases it may lead to forest fires due to ignition caused by fallen equipment, etc. Even in such cases, forest fires can be prevented through the use of PARASAFE.
- By utilizing PARASAFE when a drone falls, damage to the drone body can be reduced, so the generation of waste can also be reduced.
- By encouraging the adoption of drones equipped with PARASAFE in society, the use of clean energy will increase because CO₂-emitting vehicles currently used for logistics and transportation will be replaced with energy-saving drones and other aircraft.

◆ Social Value

The practical application of drones will make it possible to finish various tasks efficiently in a short period of time, and it is expected that this will contribute to increasing convenience in society. But no matter how high the reliability of flight may become, the risks in the unlikely event of a fall (crash) cannot be underestimated.

- In the event of accidents in drone-related businesses, installing PARASAFE on drones will help to reduce collision damage not only to the drones themselves but also to people, buildings, automobiles, etc., on the ground, and to reduce credit and credibility risks such as compensation for damages and criminal penalties.
- Encouraging the adoption of drones equipped with PARASAFE in society will be useful for a stable supply of daily necessities and pharmaceuticals to depopulated areas.
- Encouraging the adoption of drones equipped with PARASAFE in society will also enable response in areas where it is difficult for humans to conduct inspections in person, which will help to improve safety and reduce costs.

◆ Contribution to the SDGs



◆ Relation to *KV25* Materiality

- > [Company-wide material issues: Mitigation of Climate Change](#)
- > [Key sustainability issues: Reducing Energy Consumption and Greenhouse Gas Emissions](#)
- > [PARASAFE product information](#)

Business of Nippon Kayaku Group

Functional Chemicals Business

◆ Vision

Contributing to enriched lifestyles and a sustainable society by providing valuable products utilizing our technologies

◆ Contribution to the SDGs



External environment	Nippon Kayaku's strengths	Materiality
Functional Materials		
Semiconductor market to grow to 100 trillion yen by 2030	<ul style="list-style-type: none"> Synergies in semiconductor-related products Design of functional molecules 	Providing important and unique materials <ul style="list-style-type: none"> Expansion in semiconductor-related business areas such as substrates, encapsulants, cleaners, and manufacturing equipment Development and launch of resins for use in next-generation communications equipment (low-dielectric materials) Expansion of epoxy resin production capacity
Color Materials		
<ul style="list-style-type: none"> Expansion of the digital printing market Expansion of the sensing market Expansion of the dimming glass market 	<ul style="list-style-type: none"> Extensive colorant technologies covering a wide span of fields from traditional dyes to functional colorants Precision organic synthesis 	Contribution to digitalization and resource conservation with our inkjet colorants and functional colorants <ul style="list-style-type: none"> Expansion of industrial inkjet inks, improvement of production systems Mass production and expansion of imaging sensor materials Mass production and expansion of dichroic colorants
Catalysts		
Acrylic acid and methacrylic acid markets continue to grow by 5 to 6%	Optimal customization of catalyst composition and technical services	Providing catalysts with high-yield to contribute to CO ₂ reduction and affluent lives <ul style="list-style-type: none"> Improvement of catalysts for higher yields of acrylic acid and methacrylic acid Secure repeat orders and development of new customers Development of catalysts contributing to a carbon-neutral society
Polatechno		
<ul style="list-style-type: none"> Evolution and expansion of automotive display functions Growing demand for recycling rare metals 	<ul style="list-style-type: none"> Optical and electromagnetic wave control technologies and microfabrication technologies Proprietary high-durability dye synthesis technologies for polarizers 	Light-controlling products made from proprietary materials contributing to the realization of a Super Smart Society <ul style="list-style-type: none"> Expansion of new applications for X-ray analysis device parts / materials and inorganic polarizers Expansion of new in-car applications of highly durable polarizers such as parts / materials for HUDs

Pharmaceuticals Business

◆ Vision

Developing excellent pharmaceuticals and medical devices that provide new diagnostic and treatment opportunities
Stable supply of Biosimilars and generic drugs, contributing to people's health

◆ Contribution to the SDGs



External environment	Nippon Kayaku's strengths	Materiality
<ul style="list-style-type: none"> Pharmaceutical industry vision (quality and stable supply, manufacturing and sales, bio-pharmaceuticals, domestic manufacturing and development, encouraging use) Expansion of the CDMO market Annual drug price revisions 	<ul style="list-style-type: none"> Consistent business operation from R&D to manufacturing, sales, quality assurance, pharmacovigilance and post marketing surveillance Top domestic anti-cancer drugs lineup and specialized MR Manufacturing technology for highly pharmacologically active substances 	New drug
		<ul style="list-style-type: none"> Increasing share for ALAGLIO® in TURBT* Expansion of DARVIAS® scheduled to be launched in FY2022 Maximizing value through drug fostering and evolution
		Biosimilars
		<ul style="list-style-type: none"> Measures to promote biosimilars through the revision of medical fees Expansion of lineup through introduction of new biosimilars
		Generic anti-cancer drugs
		Working toward the vision for FY2030
		Enhancement of pipeline <ul style="list-style-type: none"> Development of new drugs in collaboration with external organizations Introduction of new drugs and medical devices

* TURBT: Transurethral Resection of Bladder Tumor (surgery to remove bladder tumors using an endoscope and excision loop)

Safety Systems Business

◆ Vision

Provide safety solutions to people around the world with products that support changing mobility technologies, and become a global brand that contributes to society

◆ Contribution to the SDGs



External environment	Nippon Kayaku's strengths	Materiality
<ul style="list-style-type: none"> Global automobile production will recover from the impact of the COVID-19 pandemic, while the impact of semiconductor shortages continues in the short term The installation rate of safety components is increasing, primarily in emerging countries Growing new demand due to EVs, etc. Expansion of applications such as drone transportation, etc., and demands for safety assurances 	<ul style="list-style-type: none"> Technology and inherited expertise to handle explosives safely Industry top-level market share in automotive safety components Global expansion of locations 	Inflators <ul style="list-style-type: none"> Expansion of production bases for cylinder-type inflators (Japan, China, Malaysia) Expand of sales to customers in China and South Korea Developing next-generation inflators
		Micro gas generators / squibs / pyrotechnic products <ul style="list-style-type: none"> Securing next-generation module projects from customers Securing increased volume projects, such as for rear seats Expansion of applications such as pedestrian protection and electric current shut-off Consideration of new pyro device applications
		Drone safety components <ul style="list-style-type: none"> Expansion of sales of PARASAFE® for 25kg drones launched in 2021 Development and early market launch of PARASAFE® for 15kg drones Development of safety parts for flying cars and large drones

Agrochemicals and Other Businesses

◆ Vision

Support the food supply, and contribute to the development of sustainable agriculture by continuing to provide excellent eco-friendly agrochemicals and related technologies and services

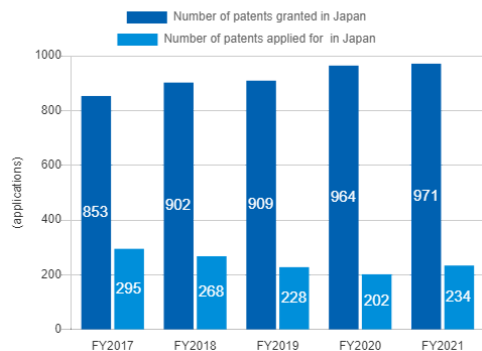
◆ Contribution to the SDGs



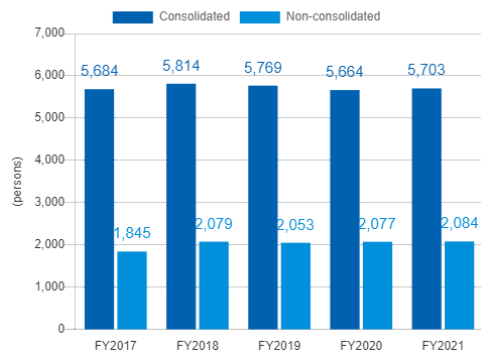
External environment	Nippon Kayaku's strengths	Materiality
<ul style="list-style-type: none"> Domestic crop protection market remains at the current level, overseas crop protection market is growing due to increased demand for food Introduction of a pesticide re-evaluation system has raised the bar for obtaining and maintaining domestic agrochemical business registration Strategy "MeaDRI" (Sustainable Food Systems) promotes innovation that enables the reduction of agrochemicals (risk conversion) Smart agriculture, development of new low-risk agrochemicals, development of new control technologies and products 	<ul style="list-style-type: none"> Insecticides and soil fumigants in the vegetable and fruit tree domain Formulation know-how (innovative formulations) Operating activities combining technical services and information provision Manufacturing technologies (from raw ingredients to product formulation) 	Japan <ul style="list-style-type: none"> Flometoquin formulations (FINESAVE®), expansion of FUMON® Expansion of sales by expanding the scope of agrochemical registration Expanding sales of TELONE™, Asahi D-D Response to the agrochemical re-evaluation system for DIAZINON® and other agrochemicals Expansion of contracted manufacturing
		Overseas <ul style="list-style-type: none"> Rebuilding the EVISECT® business by restructuring the supply chain Registering and expanding sales of Flometoquin preparations
		Working toward the vision for FY2030 <ul style="list-style-type: none"> Development of new innovative formulations Development and introduction of biostimulants Development of new insecticides

Data Highlights

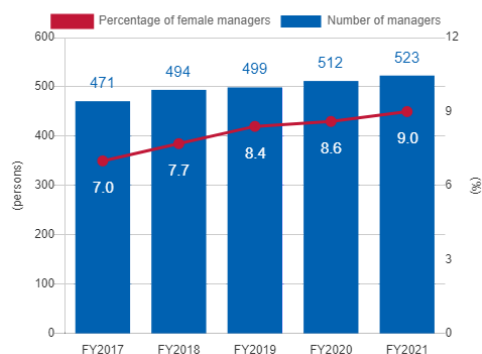
Number of patents granted / Number of patents applied for



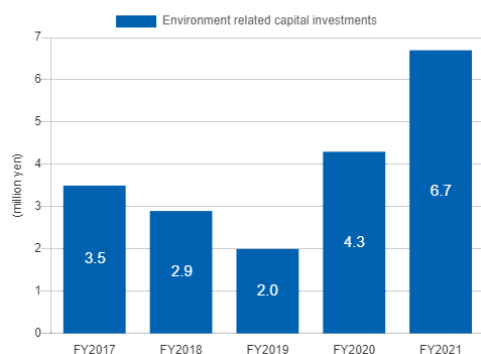
Consolidated and non-consolidated numbers of employees



Number of managers/Percentage of female managers

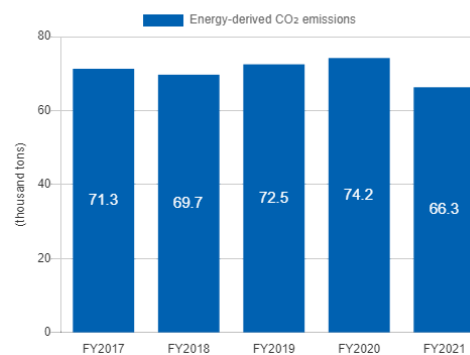


Environment related capital investments



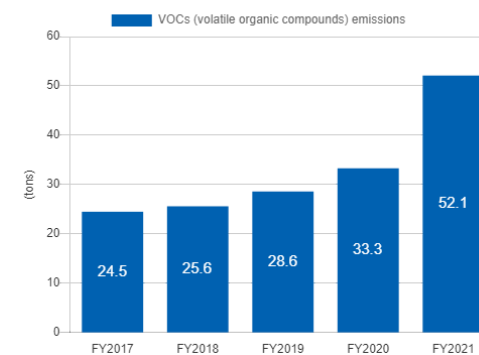
* Nippon Kayaku non-consolidated basis; excluding seconded employees

Energy-derived CO₂ emissions



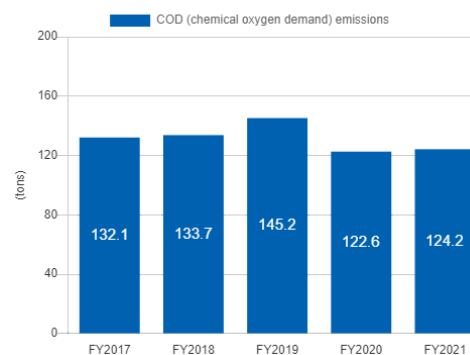
* FY2020 target value: reduction of 3.8% or more (79,500 tons or less)

VOCs (volatile organic compounds) emissions



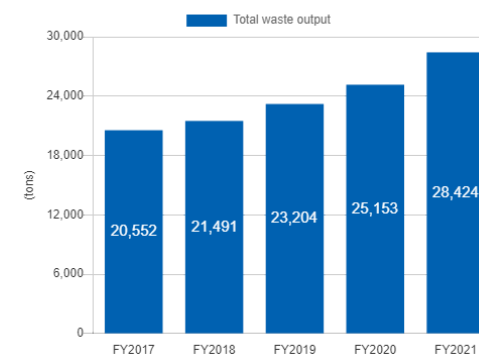
* FY2020 target value: 42 tons or less

COD (chemical oxygen demand) emissions



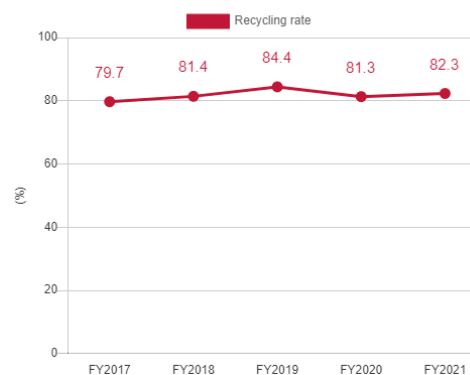
* FY2020 target value: 150 tons or less

Total waste output



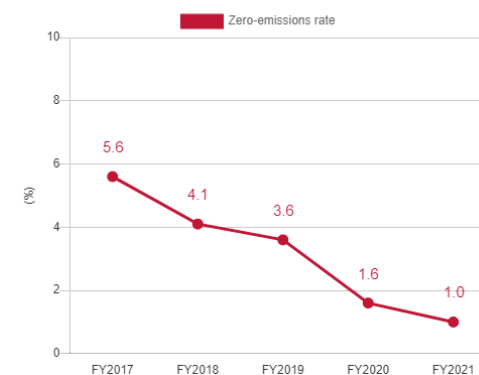
* FY2020 target value: 23,500 tons or less

Recycling rate



* FY2020 target value: 80% or higher

Zero-emissions rate



* FY2020 target value: 3.0% or less

Environment

Environmental Management	39
[Important Issues] Reducing Energy Consumption and Greenhouse Gas Emissions	42
Prevention of Air Pollution	46
[Important Issues] Reduction of Wastewater and Industrial Waste	47
[Important Issues] Improving Efficiency of Water Resource Use	50
Biodiversity	52
Environmental Accounting	53

Environmental Management

The Declaration on Environment, Health and Safety, and Quality

[Click here for the “The Declaration on Environment, Health and Safety, and Quality”](#)

Responsible Care in the Nippon Kayaku Group

Everyone belonging to the Nippon Kayaku Group shares a common understanding that the Group is striving to “prioritize safety above all else,” with all officers and employees promoting Responsible Care activities in accordance with the Declaration on Environment, Health and Safety, and Quality. Based on this common understanding, we are ensuring our compliance not only with the laws and regulations of Japan but also those in force at our overseas sites, preventing accidents that could affect the environment and our own safety, and working toward realizing the KAYAKU spirit.

The Nippon Kayaku Group Responsible Care Policy was created to set out the policies underpinning the Group’s ongoing efforts from FY2019 onward, the contents of which have been confirmed throughout the Group. The policies have been developed with a particular focus on the following: health and safety activities that place importance on identifying unsafe activities by implementing 30-second patrols and fixed-point observations; review of environment, health and safety diagnostics with an emphasis on assessing risks related to equipment safety; and decarbonization efforts with the aim of achieving the environmental targets of the new medium-term business plan that was newly developed with targets to be achieved by FY2030. The Nippon Kayaku Group will continue to promote Responsible Care activities based on these policies.

Nippon Kayaku Group Responsible Care Policy (Excerpt of policies related to the environment)

◆ < Target >

Serious environmental accidents / disasters: zero

◆ 1. Key issues in Responsible Care

- Improving Scope 1 and 2 greenhouse gas emission intensity per unit production by 1% per annum through energy saving

◆ 4. Activities to achieve environmental targets

- Endorsing TCFD and making disclosures consistent with TCFD requirements
- Preparation to obtain SBT certification
- Appropriately operating a cloud-based environmental data aggregation system and establishing an emissions management system
- Establishing specific reduction targets based on CO₂ emissions reduction simulations
- Reviewing calculation methods for Scope 3 with a view to reductions
- Third-party verification of Scope 1+2+3 emission totals
- Response to the Plastic Resource Circulation Act
- Setting targets for reduction of plastic waste output

System

[Implementing Responsible Care](#)

Environmental Targets of the new Medium-term Business Plan

The Nippon Kayaku Group newly established the environmental targets of the new medium-term business plan in FY2021, and has commenced environmental protection activities under this new plan.

The Business Plan is already in effect, providing medium-term environmental targets to be achieved by FY2030, with the scope for the item on the “prevention of global warming” extended to include all companies within the Group (consolidated). In order to achieve the emissions target set for FY2030, we would need to reduce emissions at an annual rate of 3%. For FY2021, this translates to a goal of limiting emissions to 123,100 tons or less, which was achieved, with actual emissions kept down to 112,100 tons for that year. We are thus making steady strides toward the FY2030 target of reducing emissions to 88,300 tons or less. With regard to this issue, in March 2022, Nippon Kayaku announced its support for the recommendations issued by the Task Force on Climate-related Financial Disclosures (TCFD). In the future, Nippon Kayaku will not only disclose information on its progress with reducing greenhouse gas emissions in accordance with the TCFD recommendations, but will also actively disclose information on initiatives to develop a sustainable and recycling-oriented society, including those on the risks and opportunities related to climate change.

With regard to “reducing our chemical substance footprint,” the Business Plan does not define target figures for VOC and COD emissions, but requires that reports be made on the actual amounts of VOC and COD emitted. VOC emissions increased from the previous fiscal year, and COD emissions also went up slightly; however, these are believed to have been caused by the increase in production volume and other such factors.

As for the item concerning “reduction of waste,” the Business Plan calls for the amount of generated waste to be reported without setting a target, but does establish the goals of achieving a recycling rate (excluding container reuse) of 80% or more and a zero-emissions rate set at 1% or less. For FY2021, the amount of generated waste was affected by the increased volume of production, but recycling efforts were strengthened at each of the business sites. Furthermore, as a result of our continuous promotion of efforts to reduce our environmental impact, our recycling rate is improving and we are getting close to achieving our zero-emissions target.

FY2021 Results for the Medium-term Environmental Targets

Category	Item	Target	FY2020 ^{*1}	FY2021
Prevention of global warming ^{*2} (consolidated)	Greenhouse gases & Scope 1 & 2 ^{*3} emissions	Target for FY2030: 88,300 tons or less (32.5% reduction or more compared to FY2019) (Reference: FY2021 results): 122,300 tons or less	118,400 tons (9.5% decrease)	112,100 tons (14.3% decrease)
Reduction of chemical substance footprint (non-consolidated)	VOC ^{*4} (volatile organic compound) emissions	(Report results)	33.3 tons	52.1 tons
	COD ^{*5} emissions	(Report results)	122.6 tons	124.2 tons
Reduction of waste (non-consolidated)	Total waste produced	(Report results)	25,153 tons	28,424 tons
	Recycling rate (excluding container reuse)	80% or more	81.6%	82.3%
	Zero-emissions rate ^{*6}	1% or less	1.6%	1.0%

*1 Includes Joetsu Plant. Note that Joetsu Plant is outside the scope of the former medium-term environmental targets established for the period up to FY2020.

*2 Medium-term environmental targets for the period up to FY2030: Reduced by 32.5% or more (88,300 tons or less) compared to FY2019 (130,800 tons)

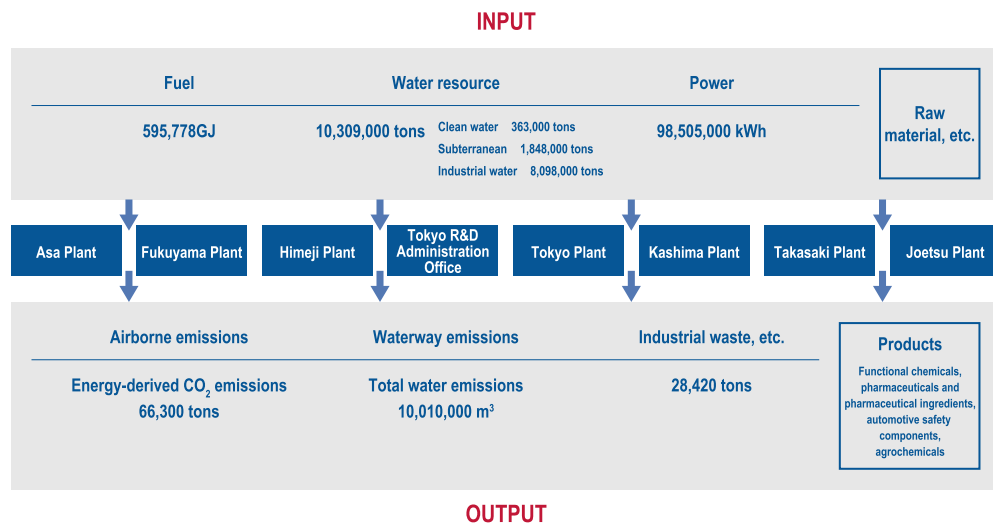
*3 Scope 1: Direct emissions of greenhouse gas by the business itself (emissions from the burning of fuel, manufacturing processes, etc.)
Scope 2: Indirect emissions from the use of power, heat and steam provided by other companies.

*4 Tally for volatile organic compounds (VOCs) includes not only the chemical substances that are required to be reported by government ordinance (PRTR law), but also the chemical substances designated by the Japan Chemical Industry Association.

*5 Chemical oxygen demand (COD): This refers to the amount of oxygen needed to oxidize a substance under water, and is one of the major indexes for measuring water quality.

*6 Zero-emissions rate: Nippon Kayaku defines this as the amount of internal and external landfill waste produced as a percentage of the total waste generated.

FY2021 Material Flow in Business Activities (Relevant organization: Nippon Kayaku non-consolidated)



Acquisition of International Certification

Acquisition of Environmental Management System Certification

The Nippon Kayaku Group develops, manufactures and provides its products and services while making efforts to protect the environment. It continues to be certified under ISO 14001, which is the global standard for environmental management. We began acquiring the ISO 14001 certification for our environmental management system in 1998, and are certified at all of our seven plants within Japan. Studies are also underway toward acquiring certification for our Group companies, including at our overseas locations.

◆ List of Business Sites with Environmental Management System Certification

Business site	Certification date	Certification body	Certification number
Fukuyama Plant	April 1999	JCQA	JCQA-E-0062
Asa Plant	September 1998	JCQA	JCQA-E-0987
Tokyo Plant	December 1998	JCQA	JCQA-E-0036
Joetsu Plant (including logistics center)	August 2002	SGS	JP15/071413
Takasaki Plant	January 2001	JCQA	JCQA-E-0101
Himeji Plant	March 1999	JIA-QA	JE0054H
Kashima Plant	March 1999	JCQA	JCQA-E-0046
KAYAKU CHEMICAL (WUXI)	August 2006	UCC	02421E32060755R0M
WUXI ADVANCED KAYAKU CHEMICAL	July 2007	CQC	0012E33375R4M/3200
WUXI POLATECHNO OPTICS	April 2006	UCC	02420E31011518R2M
Kayaku Safety Systems Europe	December 2002	BVCZ	250302-2017-AE-CZS-RvA
Kayaku Safety Systems (Huzhou)	June 2016	SNQA	42144
Coverage ratio*			63%

* Ratio of production facilities owned by our Company or by our consolidated subsidiaries that have acquired ISO 14001 certification.

* The coverage rate of production facilities for Nippon Kayaku Co., Ltd. on a non-consolidated basis is 100%.

Response to Environmental Regulations

The Nippon Kayaku Group complies with environmental legislation, and is responding to a variety of environmental regulations while educating our employees, providing information on dangers and hazards, and continuing to realize zero violations of law or community standards throughout the life cycle of our products, from research and development to final disposal after use. The Nippon Kayaku Group continued to remain free of any violations of environmental laws and regulations throughout FY2021.

Response to Global Regulations on Chemical Products

The Functional Chemicals Group provides both domestic and overseas users with specialty industrial chemical products that take the environment, safety and quality into account. With laws related to chemical substances being developed and strengthened around the world, it has become increasingly important for our Group to operate its business in compliance with such regulations, and to provide accurate information to our supply chain regarding the chemical substances present in our products.

◆ Chemical Substance Management System

The Chemical Management Department, which is part of the Quality Assurance Division, oversees and assists the chemical substance management performed by the Functional Chemicals Group, which is under its jurisdiction. Main duties include the following: (1) dealing with chemical substance registration systems in and outside Japan; (2) keeping abreast of trends in chemical laws and regulations in the different countries, developing measures to respond to those trends, and providing related information and advice to relevant departments; and (3) managing the product safety data sheets (SDSs)* and product labels, etc.

* SDS: Safety data sheet. A document listing information about the hazards and toxicity of chemical substances that is issued when a company transfers (or provides) chemicals or a product that contains chemicals to another business.

◆ Education and Assistance

Employees involved in product sales and researchers working on product development need to possess accurate knowledge about the laws and regulations pertaining to chemicals in the countries and regions where our products are sold. In FY2020, we held study sessions on the revised industrial safety and health laws in South Korea, as well as on the laws and regulations on chemical products in Japan, which helped our staff improve their knowledge.

We have also been operating an in-house “chemical management portal site” since 2017 to address the increasing complexities involved in chemical management operations. The site includes the following contents: simplified explanations and the latest revisions of chemical laws and regulations in the different countries; methods for checking the chemical laws and regulations list; and examples of responses made to these laws and regulations. We will continue to enhance the site so that it reflects regulatory changes and contributes to our collective experience.

◆ Providing Hazard and Toxicity Information in Compliance with the GHS

As countries around the world adopt the GHS*, we are now required to issue an SDS in the local language and attach it to our product labels in accordance with local laws and regulations. The Functional Chemicals Group operates an SDS authoring system (3E Generate) equipped with a wealth of translations, regulatory data for each country, and data on physical properties and toxicity, which enables it to issue the appropriate SDS in compliance with local laws and regulations for attachment to the product’s GHS label. Also, since the Japan Industrial Standards (JIS) were amended in 2019, we are in the process of changing the SDSs and product labels to comply with the new JIS within the transition period (within three years from the amendment).

* GHS : Globally Harmonized System of Classification and Labeling of Chemicals

Measures to Reduce Risk in the Manufacturing and Handling of Chemical Substances

The 2016 amendment of the Industrial Safety and Health Act made risk assessment mandatory for workplaces that manufacture and handle chemical substances. We are therefore performing risk assessments and implementing measures to reduce risk using Nippon Kayaku’s proprietary safety inspection system when conducting safety inspections for new or revised operations that involve substances mandated under this law or other hazardous or toxic substances.

The pictorial label of the GHS is attached at the site that handles the chemical substance, thereby making workers aware of the hazards and toxicity of any chemical substance that they could be exposed to.



Workers are made aware of the hazards and toxicity of the chemical substances that they could be exposed to.

[Important Issues]

Reducing Energy Consumption and Greenhouse Gas Emissions

Policy and Basic Approach

In addition to the environmental targets of the new medium-term business plan for FY2030 that was established last year, the Nippon Kayaku Group set its sights further into the future and declared a final target of achieving carbon neutrality by FY2050. In recent years, we have been faced with a rising sense of crisis about climate change as we witness abnormal weather conditions and devastations of the natural environment in various parts of the world. This has resulted in an acceleration of the global trend toward decarbonization as seen at COP26 (26th UN Climate Change Conference), with the Japanese government declaring a growth strategy based on the Paris Agreement that seeks to achieve carbon neutrality by 2050.

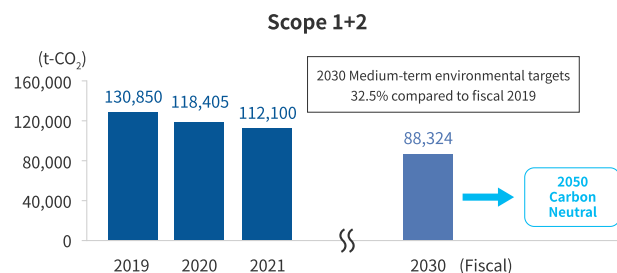
Against this background, in order to make a significant reduction to our greenhouse gas emissions, the Nippon Kayaku Group will confront the issues of climate change not only by implementing comprehensive energy-saving efforts but also by installing power sources such as solar power that have low CO₂ emissions and by switching to power derived from recycled energy that has a low emissions coefficient. We also aim to achieve decarbonization throughout our value chain by providing products that contribute toward realizing a decarbonized society and by promoting supplier engagement to that end.

Reduction in the Amount of Greenhouse Gas Emissions

The Nippon Kayaku Group has been working on various measures to reduce its energy consumption, such as by improving the operation of our utility equipment, switching to high-efficiency equipment and using LED bulbs for lighting. Our Scope 1 and 2 emissions, which are used as metrics in our FY2030 medium-term environmental targets, have been diminishing every year as shown below.

Scope 1: Direct emissions of greenhouse gas generated from a source owned or managed by the business operator themselves (emissions from fuel usage, manufacturing processes, etc.)

Scope 2: Indirect emissions of greenhouse gas from the use of power, heat or steam supplied by another business (emissions from purchased power, etc.)



Responses to Climate Change

The Paris Agreement, adopted at COP21* held in 2015, binds each country at a national level to achieve its target for reducing CO₂ emissions, with the goal of preventing average global temperatures from rising by more than two degrees Celsius above pre-industrial levels, and urging efforts to limit the increase to 1.5 degrees Celsius. Previously, the Nippon Kayaku Group set a target range in its FY2020 medium-term environmental targets to reduce CO₂ emissions at the energy source for the parent company only. However, under the newly established medium-term environmental targets up to FY2030, the goal for reducing greenhouse gas emissions in our business activities has been expanded to include the entire Nippon Kayaku Group, with targets set for FY2030 to reduce emissions (Scope 1 and 2) resulting from our Group's business activities by 32.5% compared to FY2019. The consolidated results for Scope 1 and 2 emissions for FY2021 showed a decline of approximately 6% compared to the previous year.

* COP21: 21st United Nations Climate Change Conference. The conference was held in the outskirts of Paris, France, and the Paris Agreement was adopted by all 196 participating parties as a new framework to follow on from the Kyoto Protocol, which expired in 2020.

Disclosure of Data on CO₂ Emissions (Scope 3) Throughout the Supply Chain

In recent years, there has been an increasing tendency for companies to keep tabs on, manage and disclose information on indirectly emitted CO₂ throughout the supply chain. At the Nippon Kayaku Group, we are not only aggregating and managing Scope 1 and Scope 2 emissions as before, but are also calculating Scope 3 emissions within the supply chain.

Since FY2017, Nippon Kayaku has been calculating Scope 3 emissions on a non-consolidated basis, but from FY2019, this has been expanded to include both domestic and overseas Group companies. The Nippon Kayaku Group will continue to calculate and manage our data based on the General Guidelines on Supply Chain GHG Emission Accounting issued by the Ministry of the Environment, in order to systematically implement initiatives to reduce CO₂ emissions throughout the supply chain.

Scope 3: Indirect emissions other than Scope 2 (emissions from raw material procurement, employee commuting, business travel, waste processing consignment, product usage, disposal, etc.)

Category		Emissions (thousand ton-CO ₂ /year)		
		FY2019	FY2020	FY2021
1	Purchased products and services	243.6	237.3	294.5
2	Capital goods	42.7	42.9	26.8
3	Fuel- and energy-related activities not included in Scope 1 or 2	22.4	21.2	22.3
4	Transportation and distribution (upstream)	19.0	17.6	22.3
5	Waste generated in operations	26.5	28.8	31.8
6	Business travel	0.8	0.8	0.8
7	Employee commuting	2.5	2.4	2.4
8	Leased assets (upstream)	Included in scope 1 or scope 2		
9	Transportation and distribution (downstream)	1.0	1.0	1.6
10/11	Processing/usage of sold products	-	-	-
12	End-of-life treatment of sold products	15.4	23.2	26.4
13	Leased assets (downstream)	0.4	0.4	0.4
14/15	Franchise/investments	-	-	-
Total of Scope 3		374.3	375.6	429.3
Scope1		36.2	35.3	37.4
Scope2		94.7	83.1	74.7
Total of Scope 1+2+3		505.2	494.0	541.4

Calculation method: As a rule, the amount of CO₂ emitted is calculated based on the General Guidelines on Supply Chain GHG Emission Accounting issued by the Ministry of the Environment and the Ministry of Economy, Trade and Industry, and the emission coefficient listed by the IDEA Research Laboratory at the National Institute of Advanced Industrial Science and Technology's Research Institute of Science for Safety and Sustainability.

Supporting the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

The Nippon Kayaku Group upholds a basic policy of sustainable management as described in the new Medium-term Business Plan **KAYAKU Vision 2025**, which came into effect from FY2022, and is striving toward the realization of a sustainable society and the further enhancement of our corporate value by seeking to achieve environmental, social and economic value in implementing efforts to deal with climate change.

Climate has a major impact on our society and, accordingly, we consider this to be a highly important issue. In March 2022, we declared our support for the recommendations made by the Task Force on Climate-related Financial Disclosures (TCFD). Going forward, the Nippon Kayaku Group will accelerate our efforts toward reducing greenhouse gas emissions and developing a recycling-oriented society in line with the TCFD recommendations.



Information Disclosure Based on the TCFD Recommendations

Governance

The Sustainable Management Meeting, chaired by the president, deliberates, reviews and evaluates the business plan and other items related to the Nippon Kayaku Group's future responses to climate change. The results of such deliberations, reviews and evaluations are reported to the Board of Directors and, under this structure, are subject to being observed and supervised by the Board.

Furthermore, the Environment, Safety, Quality Management Committee (chaired by the head of the Technical Operations Group) has been created as one of the specialized committees under the Sustainable Management Meeting to oversee the implementation of climate change initiatives. This committee delves deeper into issues related to climate change from a standpoint that extends across the entire Group.



Strategy

Nippon Kayaku has multiple businesses being deployed on a global scale, and is presented with various risks and opportunities depending on the business area. In order to identify the impact that climate change can have on each business, we evaluated the climate-related risks throughout the Group in accordance with the TCFD recommendations, and further considered the opportunities in each business area. In identifying the risks and opportunities related to climate change, the time period when the risks will emerge has been defined as follows.

	Period	Reason
Short-term	4 years up to FY2025	Period falling within the Medium-term Business Plan KAYAKU Vision 2025 (KV25) that started in FY2022
Medium-term	Up to FY2030	In line with goals for FY2030 that are set in the Nippon Kayaku Group Environmental Targets of the Medium-term Business Plan
Long-term	Up to FY2050	In line with the year set as the goal for Japan's NDC target

◆ Climate-related Risks

Business risks related to climate change are based on the IPCC's Representative Concentration Pathway (RCP 2.6, 8.5) scenarios, IEA's Sustainable Development Scenario (SDS) and the Stated Policies Scenario (STEPS) for both the 2°C and 4°C scenarios.

◆ Risks and Opportunities in Transitioning to a Decarbonized Economy for the 2°C Scenario

Category	Major risks	Period of risk emergence	Financial impact	Major countermeasures
Policies & regulations	Increased operation costs from tighter emissions regulations	Short to long term	Medium	<ul style="list-style-type: none"> Implement dispersed power for each site, such as solar power and high-efficiency cogeneration power generators Reduce material loss by utilizing MFCA and implement comprehensive energy-saving activities
	Rising price of electricity, LNG, etc.	Short to long term	Medium	
	Increased raw material costs from tighter emissions regulations	Short to long term	Medium	<ul style="list-style-type: none"> Encourage suppliers to reduce emissions through engagement activities
Market & reputation	Increased costs from disclosure of environmental information and LCA calculations, etc.	Medium to long term	Small	<ul style="list-style-type: none"> Rationalize the emissions calculation method at each site and systemize the LCA calculations

◆ Physical Risks from the 4°C scenario

Category	Major risks	Period of risk emergence	Financial impact	Major countermeasures
Acute & chronic physical risks	Increased costs from flood damage caused by typhoons, heavy rain events, high tides, etc.	Short to long term	Medium	<ul style="list-style-type: none"> When building new plants, account for the possibility of flooding when considering the geographical situation and the configuration and placement of equipment Strengthen efforts to save water used during production, and consider reusing and recycling water
	Impact on operations due to water shortage	Medium to long term	Small	
	Reduced labor productivity due to increased temperatures	Medium to long term	Small	<ul style="list-style-type: none"> Enhance the work environment such as by improving air-conditioning, and promote the automation of high-temperature work processes

◆ Opportunities in Each Business Area in Transitioning to a Decarbonized Economy for the 2°C Scenarios

Business area		Business environment		Opportunity	Period of opportunity creation	Financial impact*
Functional Chemicals	Functional Materials	Tightened regulations against greenhouse gas emissions in various countries & regions	<ul style="list-style-type: none"> Advances in social changes, such as growth of smart cities Heightened demand for increased energy efficiency of electronics products Increased demand for storage batteries able to handle large output fluctuations in response to expanding use of recyclable energy Global expansion of demand for mobility/transport methods that have relatively low emissions 	<ul style="list-style-type: none"> Increase in semiconductor materials from growth of smart cities and DX Expansion of functional materials that help reduce energy consumption of display devices Expansion of low-emission materials due to the increased shift in raw materials toward biomass feedstock Expansion of resin materials that help make mobility frames more lightweight 	Short to long term	Large
	Color Materials			<ul style="list-style-type: none"> Expansion of ink for digital on-demand that enables low-carbon printing Expansion of dimming glass/film that controls incident sunlight 	Short to long term	Large
	Catalysts			<ul style="list-style-type: none"> Growth of catalyst for producing green energy, such as hydrogen Growth of catalyst for promoting the use of biomass-derived raw materials 	Medium to long term	Large
	Polatechno			<ul style="list-style-type: none"> Growth of safety display device components for sensors, HUD, etc. brought on by the development of EV and automated driving Growth of polarizing plates that help reduce energy consumption of display devices 	Short to long term	Medium
Pharmaceuticals			<ul style="list-style-type: none"> Direct impact is limited 	<ul style="list-style-type: none"> Studying items within the entire range of business activities that will become opportunities 	Short to medium term	Small
Safety Systems			<ul style="list-style-type: none"> Global expansion of demand for mobility & transport methods that have relatively low emissions Significant restrictions in sales of internal combustion engine vehicles, depending on the region 	<ul style="list-style-type: none"> Rise of EV and automated driving brings increased diversification in smallness of size, lightness of weight, and shape to automobile safety parts Expansion of safety parts for unmanned aircraft such as drones 	Short to long term	Large
Agrochemicals			<ul style="list-style-type: none"> Direct impact is limited 	<ul style="list-style-type: none"> A certain level of temperature increase is expected even for the 2°C scenario, thus expanding the use of biostimulants that help maintain and improve agricultural productivity Expanded use of existing agrochemicals to deal with new problems with pests 	Medium to long term	Small

* Financial impact: Large = 2 billion yen or more; Medium = 0.5 to 2 billion yen; Small = 0 to 0.5 billion yen

Risk Management

The Nippon Kayaku Group identifies the reducing energy consumption and greenhouse gas emissions as a key sustainability issue related to climate change.

The M-CFT Mitigation of Climate Change Team was created to coincide with the start of the KV25 under a governance system comprised of the Board of Directors, the Sustainable Management Meeting and the Environment, Safety, Quality Management Committee. This response team serves a central role in identifying and evaluating climate change risks, while also executing other specific measures such as actively implementing energy-saving efforts and pushing forward with environmental investments.

Metrics and Targets

As a metric against the risk of climate change, the Nippon Kayaku Group has established the target of reducing greenhouse gas emissions (Scope 1 and 2) for the entire Group by 32.5% in FY2030 compared to FY2019. In order to achieve this target, we are starting by aiming to reduce greenhouse gas emissions by 3% every year during the KV25 period. We are also conducting advanced studies on making a shift to green energy such as hydrogen and ammonia in order to achieve carbon neutrality for Scope 1 and 2 by FY2050.

Also, in order to enable us to include Scope 3 in establishing future targets on reducing emissions, we have been working on enhancing the accuracy of our Scope 3 calculation methods in anticipation of being able to individually determine the amount of emissions for each product (carbon footprint). Our calculation results for Scope 1, 2 and 3 are scheduled to be examined by a third party during FY2022. In order to reduce Scope 3 emissions, we will work together with our business partners in reinforcing efforts to reduce environmental impacts throughout the entire supply chain.

[> Environmental Data](#)

Promoting the Adoption of Material Flow Cost Accounting (MFCA)

To date, the Nippon Kayaku Group has been striving to reduce its burden on the environment by making its production processes more energy-efficient and conserving resources. The Group is now working toward the adoption of material flow cost accounting (MFCA) by viewing its environmental burden-reducing initiatives as an opportunity for environmental management. Adopting MFCA helps us to identify energy losses and material losses in the production process, and by clarifying these losses it enables us to continuously reduce our impact on the environment such as by reducing CO₂ emissions in our production activities. Since the second half of FY2018, Nippon Kayaku has been working on adopting MFCA for certain products at its Fukuyama Plant, which is achieving some positive results. In FY2019, we adopted MFCA at our Tokyo and Asa Plants, and in FY2020 we also introduced MFCA at our Kashima Plant. We plan to expand MFCA to other plants in the future so that we can further promote energy and resource conservation.

FY2021 Summary of Energy-saving Activities of the Nippon Kayaku Group

Since FY2011, Nippon Kayaku Group has been continuing to study and calculate energy-saving activities at each of our Group companies.

☀️: Solar panel installation /: Unrealized due to lease limitations -: Non-applicable
 * High-load machinery: Refrigerators/freezers, blowers, steam management, etc.

Business site / Company name	Management of appropriate thermostat settings	Power-saving, water-saving, awareness-building activities	Reduction of fluorescent lights, switch to LED lights	Controlled operation of high-load machinery*	Heat barrier film, heat barrier paint, water sprinkler
Nippon Kayaku (Head Office)	●	●	●	-	-
Fukuyama Plant	●	●	●	●	●
Asa Plant☀️	●	●	●	●	●
Tokyo Plant	●	●	●	●	●
Joetsu Plant	●	●	●	●	×
Takasaki Plant	●	●	●	●	●
Himeji Plant☀️	●	●	●	●	●
Kashima Plant	●	●	●	●	●
Tokyo R&D Administration Office	●	●	●	●	●
MOXTEC	●	●	●	-	●
WUXI POLATECHNO OPTICS	●	●	●	-	-
Dejima Optical Films	●	●	●	●	×
NIKKA FINE TECHNO	●	●	●	-	/
Nippon Kayaku Korea	●	●	/	-	/
NIPPON KAYAKU AMERICA	●	●	/	-	●
Euro Nippon Kayaku	-	●	●	-	/
KAYAKU CHEMICAL (WUXI)	●	●	●	●	●
KAYAKU Advanced Materials	●	●	●	●	-
WUXI ADVANCED KAYAKU CHEMICAL	●	●	●	●	●
Shanghai KAYAKU International Trading	●	●	-	-	-
NIPPON KAYAKU FOOD TECHNO	●	●	●	-	●

Business site / Company name	Management of appropriate thermostat settings	Power-saving, water-saving, awareness-building activities	Reduction of fluorescent lights, switch to LED lights	Controlled operation of high-load machinery	Heat barrier film, heat barrier paint, water sprinkler
Tumor Diagnosis Support	●	●	●	-	●
Taiwan Nippon Kayaku	●	●	-	-	-
Kayaku Safety Systems Europe☀️	●	●	●	●	●
Kayaku Safety Systems (Huzhou)	●	●	●	●	●
Kayaku Safety Systems de Mexico☀️	●	●	●	●	●
Kayaku Safety Systems Malaysia	●	●	●	-	●
Nishimato Driving School	●	●	●	-	●
Okiura Golf Center	●	●	●	-	●
Kayaku (Shanghai)	●	●	-	-	-
JAPAN HUMAN RESOURCES MEDICAL SCIENCE RESEARCH INSTITUTE	●	●	●	-	-
Wako Toshi Kaihatsu	●	●	●	-	-
Kowa Sangyo	●	●	●	-	●
Gunnan Sangyo	●	●	●	-	●
Kayaku Japan (Head Office)	●	●	●	-	/
Kayaku Japan (Asa Plant)	●	●	●	●	●

Prevention of Air Pollution

The Nippon Kayaku Group is engaging in the careful management of substances that cause air pollution by categorizing them into those that fall under Japan's Air Pollution Control Act, those that are hazardous air pollutants, and all other air pollutants.

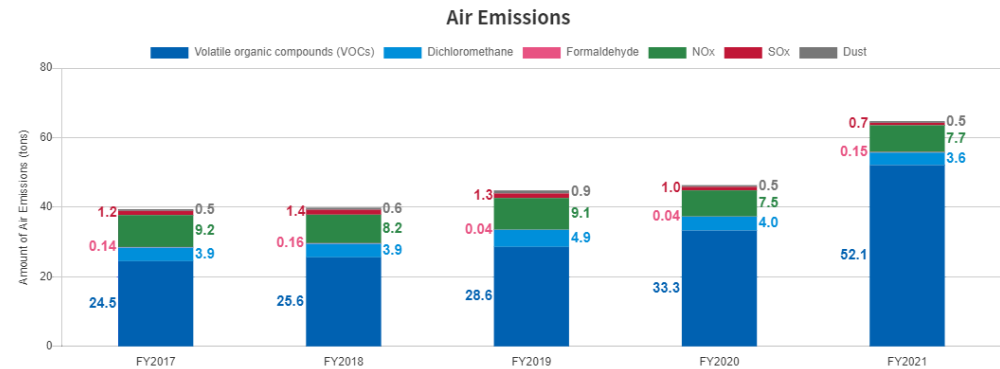
During FY2021, VOC emissions increased because we used aeration treatment to remove impurities from some solvents.

As for hazardous air pollutants, the Japan Chemical Industry Association has taken the initiative in defining 12 control substances^{*1} as those that should be voluntarily managed, with efforts being made to reduce emissions of them. Of these 12 control substances, five have been used by Nippon Kayaku since FY1995, but the use of benzene during the production process was terminated during 1995. Emissions of chloroform and ethylene oxide have been cut to zero since FY2007. Slight emissions of dichloromethane and formaldehyde continue to occur. Going forward, we will continue to make improvements to our production processes and other areas in order to reduce emissions, and will strive to reduce dichloromethane and formaldehyde emissions, largely by reducing the use of these substances.

As for other air pollutants, sulfur dioxide (SOx)^{*2}, nitrogen oxide (NOx)^{*3} and dust^{*4} are emitted during boiler operations. For the fuel used by its boilers, the Nippon Kayaku Group has been gradually transitioning from Bunker C heavy oil to Bunker A, which has a lower sulfur content, and is further shifting to the use of LPG and natural gas, which are sulfur-free. As a result, our SOx emissions have been in continuous decline since FY2008. We will continue in our efforts to reduce overall emissions of air pollutants into the atmosphere by performing regular inspections and keeping up the proper maintenance of our air pollution prevention equipment.

Air Emissions

Indicator	Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Volatile organic compounds (VOCs)	Non-consolidated	tons	24.5	25.6	28.6	33.3	52.1
Dichloromethane	Non-consolidated	tons	3.9	3.9	4.9	4.0	3.6
Formaldehyde	Non-consolidated	tons	0.14	0.16	0.04	0.04	0.15
NOx	Non-consolidated	tons	9.2	8.2	9.1	7.5	7.7
SOx	Non-consolidated	tons	1.2	1.4	1.3	1.0	0.7
Dust	Non-consolidated	tons	0.5	0.6	0.9	0.5	0.5



*1 The 12 control substances subject to voluntary control are as follows: acrylonitrile, acetaldehyde, vinyl chloride monomer, chloroform, 1,2-dichloroethane, dichloromethane, tetrachloroethylene, trichloroethylene, 1,3-butadiene, benzene, formaldehyde and ethylene oxide.

*2 SOx (sulfur oxide): SOx is emitted when fossil fuels that contain sulfur are burned. SOx reacts with moisture in the atmosphere to form sulfuric acid and sulfurous acid, which are causes of air pollution and acid rain.

*3 NOx (nitrogen oxide): NOx is produced when burned chemical substances react to nitrogen in the air and when fuels and chemical substances that contain nitrogen compounds such as coal are burned. Not only is it a major cause of air pollution including photochemical smog and acid rain, but NOx also has a harmful effect on the human respiratory system.

*4 Dust: Dust mainly refers to fine particles (soot) found in dust smoke produced when burning fossil fuels. In addition to being a major cause of air pollution, dust can cause humans to contract pneumoconiosis or other harmful health conditions when breathed in in high concentrations.

[Important Issues] Reduction of Wastewater and Industrial Waste

Policy and Basic Approach

The Nippon Kayaku Group has voluntarily adopted wastewater control standards that are tougher than the requirements laid out by national laws and local ordinances, and only discharges wastewater that meets our standards. The Group produces color material-related products including dyes and inkjet printer ink, and the plants that manufacture such color material-related products decolorize the colored wastewater before it is discharged.

With regard to waste, we must work toward achieving a recycling-oriented society with a low environmental impact by pushing forward with our efforts to make efficient use of and recycle different materials throughout the various life cycle stages, from production to consumption and up to final disposal. As such, the Nippon Kayaku Group elevated our goals for our recycling and zero-emissions rates in our **KAYAKU Vision 2025 (KV25)** to the status of key performance indicators (KPIs), and is striving to not only reduce waste but to also make effective use of it by considering the waste generated from our business activities as a future resource.

System

[Implementing Responsible Care](#)

Indicators

Control of Wastewater

Indicator	Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
COD	Non-consolidated	tons	132.1	133.7	145.2	122.6	124.2
Total phosphorus emissions	Non-consolidated	tons	1.4	1.6	4.1	3.2	2.0
Total nitrogen emissions	Non-consolidated	tons	75	93	72	83.2	70.4
SS*	Non-consolidated	tons	50.0	45.3	46.0	48.2	31.9

* SS (Suspended solids): Suspended solids. SS refers to particulate-like substances of 2 mm or less in diameter found floating or suspended in water. These include metal particles, animal and plant plankton and their carcasses, and organic and metal sediments originating from sewage and factory effluents, among others. The increase in SS causes a decline in water transparency, and affects underwater photosynthesis by preventing light penetration.

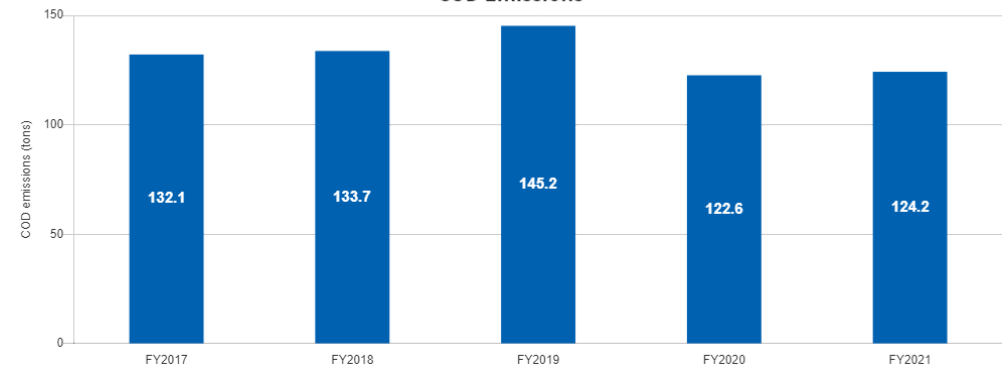
PRTR Substances

Indicator	Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021	
Emissions of PRTR ^{*1} substances	Atmosphere	Non-consolidated	tons	15.9	17.1	18.9	16.8	25.2
	Water bodies	Non-consolidated	tons	11.5	11.4	13.3	9.1	14.7
	Soil	Non-consolidated	tons	0	0	0	0	0
	Total ^{*2}	Non-consolidated	tons	27.4	28.5	32.2	25.8	39.8

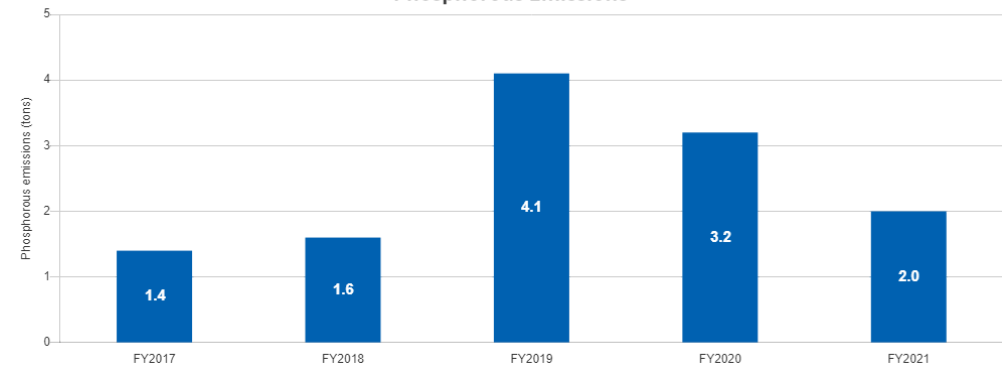
*1 PRTR (Pollutant Release and Transfer Register): The PRTR regulation is designed to prevent environmental safety incidents by encouraging businesses to voluntarily improve their own chemical substance management.

*2 The total sum may be incongruent due to rounding.

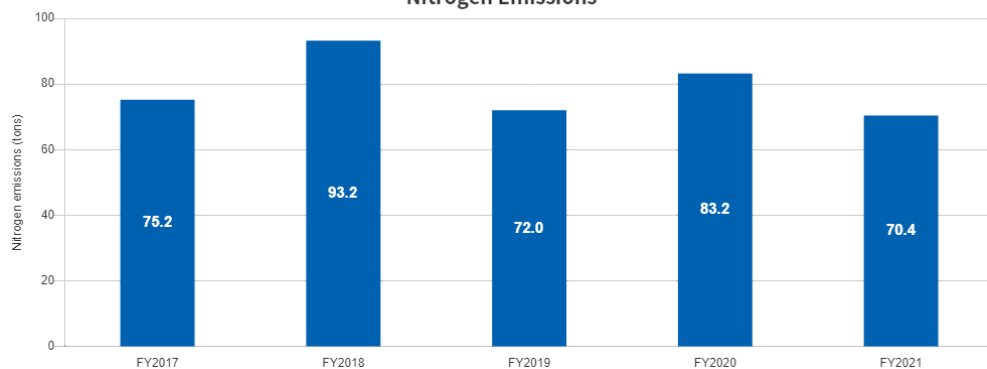
COD Emissions



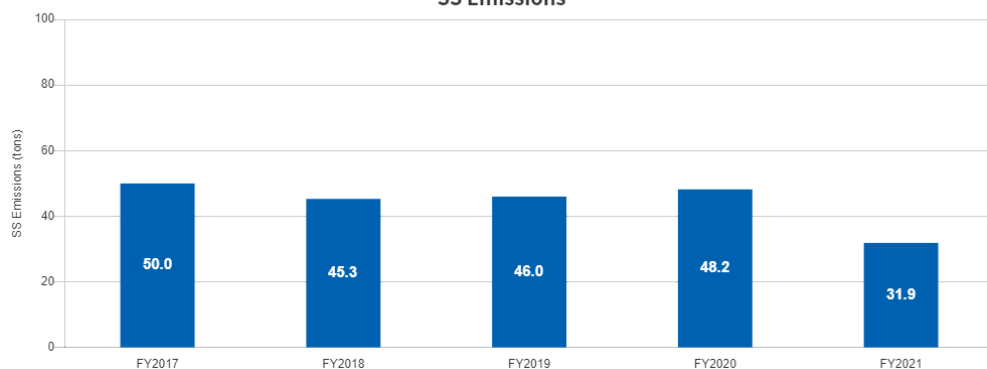
Phosphorous Emissions



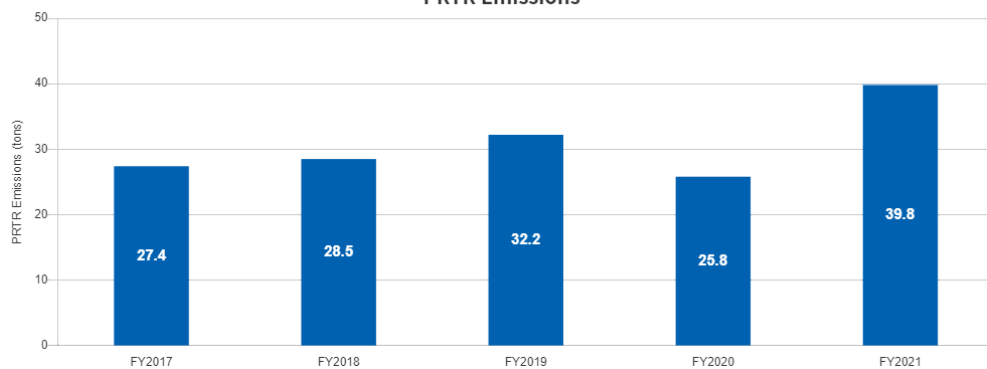
Nitrogen Emissions



SS Emissions



PRTR Emissions



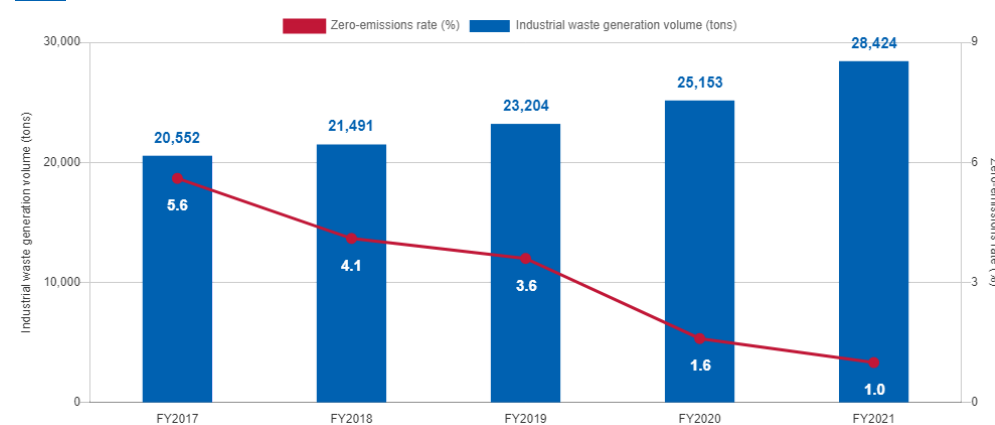
Industrial Waste

In FY2021, Nippon Kayaku generated 28,424 tons of waste, which was an increase of approximately 13% from the previous year. Meanwhile, as a result of efforts made at each of the business sites to promote recycling and implement initiatives to reduce environmental impacts, landfill waste amounted to 298 tons, or approximately 74% of the amount of the previous year, and the zero-emissions rate was decreased by 0.4 points from the previous year to 1.0%.

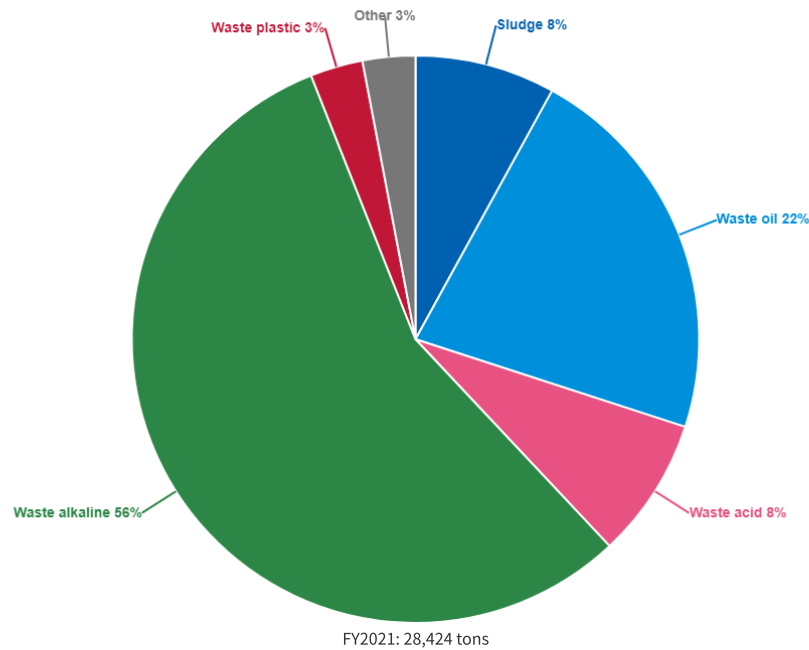
Going forward, we will keep a close watch over the production volume at each of our plants, and continue in our group-wide efforts to protect the Earth and our environment by working to reduce the amount of waste generated by our business activities and studying ways to make effective use of resources, in addition to promoting the recycling of landfill waste, which has a large impact on the environment.

Indicator	Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Amount of industrial waste generated	Non-consolidated	tons	20,552	21,491	23,204	25,153	28,424
Amount of resources recovered	Non-consolidated	tons	16,380	17,493	19,584	20,449	23,290
Final disposal amount	Non-consolidated	tons	1,148	870	847	404	298
Recycling rate	Non-consolidated	%	79.7	81.4	84.4	81.3	82.3

Trend in the Volume of Industrial Waste Generated and in the Zero-Emissions Rate



Breakdown of Industrial Waste Generated



Initiatives

Fukuyama Plant Achieved Zero Emissions by Changing Sludge Treatment

Many types of waste are produced in the course of the Fukuyama Plant's production activities. Among them, sludge that is produced from the treatment of waste liquids accounts for a considerably large portion.

This sludge is difficult to dispose of because it contains moisture. In the past, it was disposed of in landfills after undergoing appropriate treatment. However, after examining whether this sludge could be recycled to reduce environmental impacts, we found that it could be utilized as fuel for adjusting the heat used in waste incineration plants (thus reducing the amount of fuel used). This also led to our waste disposal vendor now having a source of recycled fuel, thus enabling us to both make effective use of this waste.

As a result, the Fukuyama Plant was able to reach its zero-emissions rate target (less than 1%) for the portion of its waste disposed of in landfills. Not only this, but it was also able to increase the recycling rate of waste and cut disposal costs.

Kayaku Safety Systems de Mexico

Industrial Waste Management

Kayaku Safety Systems de Mexico has been making untiring efforts to recycle solid waste, such as wood, cardboard, non-ferrous metals, aluminum and plastics, by separating them into appropriate categories and finding external suppliers that can re-use them. These different types of waste are stored for a period of two to three months at designated sites and are picked up by government-certified suppliers on a regular basis.

Of the waste that is collected, those types that can be recycled are transported to recycling companies. There, wood is made into wood pallets, cardboard is recycled into new cardboard, and plastics, aluminum and ferrous metals are used to produce new raw materials.

This program extends to non-production areas such as break areas, where organic and non-organic waste such as plastic bottles are separated to undergo proper treatment for recycling.



[Important Issues] Improving Efficiency of Water Resource Use

Policy and Basic Approach

Water risks can be largely divided into physical risks caused by drought, flooding and water contamination, and regulatory risks resulting from toughened water quality standards, changes in water and sewer prices, and switching to clean water due to the suspension of industrial water supply, among others. Water is a limited and important resource, and its conservation is considered an important theme throughout the world.

The Nippon Kayaku Group produces a variety of chemical products, and having access to water is essential for the continuation of our business activities. We are ever aware of the importance of our water resources, and are mindful of using water carefully without being wasteful.

System

> [Implementing Responsible Care](#)

Indicators

Total emissions for FY2021 amounted to 10,011,000 m³. This was an increase of only about 0.9% from the previous year's total emissions of 9,919,000 m³, despite the rise in our production volume. We will continue to take strict measures to manage and reduce wastewater in order to protect our valuable water resources.

Usage of Water Resources

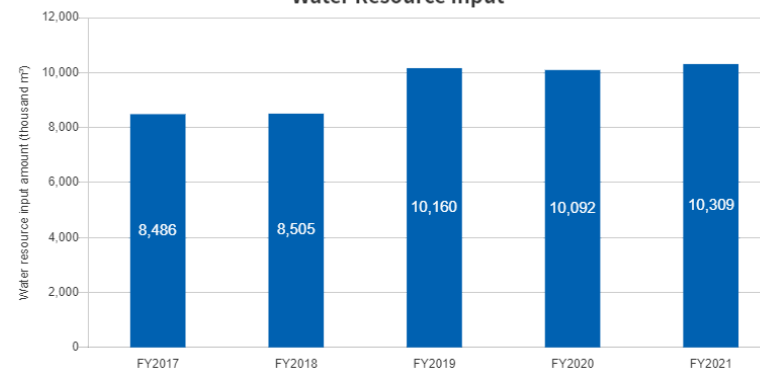
Indicator		Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Water resource input	Municipal water (tap water)	Non-consolidated	1,000 m ³	371	348	356	390	363
	Industrial water	Non-consolidated	1,000 m ³	6,507	6,534	7,521	7,874	8,098
	Groundwater	Non-consolidated	1,000 m ³	1,607	1,624	2,283	1,828	1,848
	Total^{*1}	Non-consolidated	1,000 m³	8,486	8,505	10,160	10,092	10,309
	Water withdrawals in water stressed areas ^{*2}	Non-consolidated	1,000 m ³	0	0	0	0	0
Amount of water discharge ^{*3}	Non-consolidated	1,000 m ³	9,596	9,585	10,577	9,919	10,011	
Amount of water recycled for use	Non-consolidated	1,000 m ³	0	0	0	0	0	
Rate of water recycled	Non-consolidated	%	0	0	0	0	0	

*1 The total sum may be incongruent due to rounding.

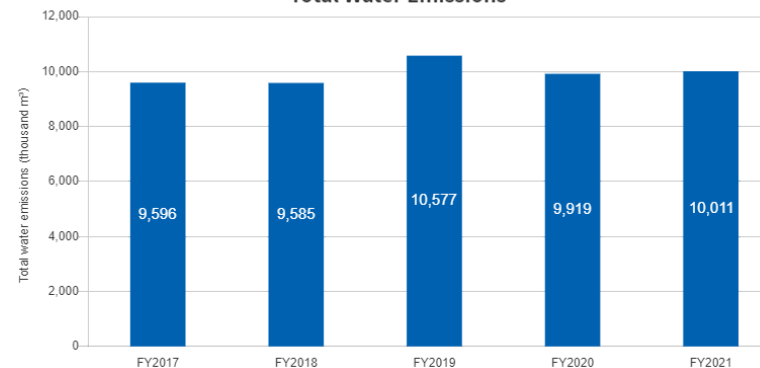
*2 Areas where our plants are located (Fukuyama [Hiroshima], Asa [Yamaguchi], Tokyo, Joetsu [Niigata], Takasaki [Gunma], Himeji [Hyogo] and Kashima [Ibaraki]) are not considered to be water-stressed areas.

*3 This refers to industrial water or groundwater, which is returned to the intake source with its quality equal to or better than its original quality.

Water Resource Input



Total Water Emissions



Fukuyama Plant Initiatives to Reduce Water Usage

The Fukuyama Plant treats wastewater resulting from the colorant manufacturing process within the plant, and then releases the treated water into the Seto Inland Sea. This plant has been manufacturing colorants for inkjet printers since 2000, and has been working on improving the method for treating wastewater resulting from the manufacturing process. As part of such efforts, numerous studies have been performed on implementing individualized treatment in accordance with the brand and revising the manufacturing process to reduce the environmental impact.

Through these efforts, the plant managed to reduce the contracted volume of industrial water from 24,000 m³ per day to 23,000 m³ per day in 2015, and further down to 22,000 m³ per day in FY2018. At present, the plant is implementing even better wastewater treatment techniques, and is succeeding in continuing operations while maintaining the same contracted volume of industrial water, despite the increase in production volume. Moreover, in addition to industrial water, the plant is also working to reduce the use of public water, which is also used during the manufacturing and equipment cleaning processes.

Kayaku Safety Systems Europe

Implementation of Equipment for the Effective Use of Rainwater

Kayaku Safety Systems Europe (KSE) introduced a water storage tank system in 2017 to utilize rainwater more effectively as part of its capital investment activities to promote environmental protection. By FY2020, an equivalent of 750.5 m³ of tanks had been installed. Rainwater, in addition to water discharged from air-conditioning that is used to control the humidity within the plant, is used for non-drinking purposes, which helps to not only increase the efficiency of water usage but also contributes toward reducing costs.



Due to the impact of climate change, the current drop in the amount of precipitation in the Czech Republic poses a significant concern, making the recycling of water extremely important. Since FY2020, the annual water storage at KSE amounts to more than the amount of drinking water used by all of KSE's employees and their families (approximately 4,000 people) for the year. KSE is continuing to promote this project in order to contribute toward the realization of a sustainable society.

	Unit	FY2019	FY2020	FY2021
Water storage capacity (scheduled)	m ³	-	4,877	5,040
Water storage capacity (actual)	m ³	4,433	6,177	7,234
Economic effects	Ten thousand yen	282	361	411

Biodiversity

Biodiversity

We at the Nippon Kayaku Group recognize that biodiversity is an essential foundation for achieving a sustainable society. Environmental pollution and deforestation are major factors in the loss of biodiversity. Thus, the Nippon Kayaku Group is working based on its Responsible Care Policy to prevent water pollution and is striving to promote plant operations in a manner that is in harmony with the natural environment.

Preventing Water Pollution

➤ [For details, please see \[Important Issues\] Reduction of Wastewater and Industrial Waste](#)

Initiatives

Takasaki Plant Plant Operations in Harmony with the Natural Environment

The Takasaki Plant was formerly an army gunpowder manufacturing plant for the Tokyo Second Army Arsenal in Iwahana. The plant was purchased in April 1946 and used to manufacture black-colored gunpowder. It later switched to manufacturing pharmaceuticals in August 1971. The plant has been aiming to be in “harmony with nature” from the time it began operations, and was certified under ISO 14001 in January 2001.

Surrounded by a rich natural environment that includes the Gunma-no-Mori forest and Karasu river, the plant operates under the slogan of “Takasaki Plant continues to protect life and the environment.” Under this banner, the plant’s environmental policy states that each and every person shall act with full awareness of the fact that they are working in an industry that is vital to human life, promote environmental protection activities and strive to operate the plant in a way that is in harmony with its rich natural environment.

The factory is located on an expansive site that extends over an area of 560,000 m². Of this, 110,000 m² that is registered as a green zone under the Factory Location Act was formerly used for gunpowder storage. But as it has not been used since the factory switched to making pharmaceuticals, the area has been left in a virtually natural state. Believed to have reverted to its earlier ecosystem, it now serves as one of the Takasaki city district’s most valuable natural habitats. The site is surrounded by Class A rivers on three sides: to the east, south and north. They are the Karasu river (a Class A river that is part of the Tone river system), the Ino river (a Class A river that branches off from the Karasu river) and the Kasu river (a Class A river that branches off from the Hirose river, which is also part the Tone river system). The northern side of the site adjoins the Gunma-no-Mori prefectural city park. We will continue to protect this valuable naturally forested area that is home to various wildlife including raccoon dogs and kingfishers.

As an environmental facility, we have both the green zone and a “creek” within the plant site. This creek is a part of a facility that was used for hydraulic power generation during the time when the plant was used to manufacture gunpowder. Relics from the foreign-made hydraulic power generator that was used during the war are also being carefully preserved and managed.

The creek exists in a naturally forested area that is removed from the nearby residential districts. Close to the rivers and a safe place for animals, it serves as an oasis for migrating birds that stop by every year to gain nourishment from the surrounding forests and rivers. The annual arrival and northerly departure of these migrating birds is a seasonal event that is greatly looked forward to by our employees.

To protect the environment at the Takasaki Plant, in addition to our efforts toward achieving carbon neutrality we are also implementing measures to protect the surrounding area by managing emissions of our treated industrial wastewater. These emissions are being managed in the following manner.

The creek that flows through has a dam built on it that divides it into two sections. The first section temporarily pools industrial wastewater that has been detoxified by the activated sludge process. In the second section, the water quality is measured on a daily basis, and the dam is opened to release the water from the creek into the river after it has been confirmed by means of actual measurements that there are no abnormalities. In this way, we are taking every precaution to prevent environmental pollution.



Transition to forest-certified Products

All of the paper used at the Head Office for photocopy machines is certified by the forest certification systems. We also use forest-certified paper for materials distributed throughout the Company, such as our in-house newsletters, company brochures, and pamphlets on sustainable management. We are also working on replacing our packaging materials with products that are forest-certified. We start our environmental efforts with those that our employees feel are pertinent to themselves, and take every possible step to reduce the impact that our business activities have on the environment.

Environmental Accounting

Environmental Accounting

Nippon Kayaku has been calculating the costs associated with its environmental protection initiatives and releasing the information to the public since FY2000. We have also been calculating the effects of our environmental protection initiatives since FY2003. Calculation of environmental costs and economic effects are made according to the Environmental Accounting Guidelines (2005 version) published by the Ministry of the Environment of Japan and the Environmental Accounting Guidelines for Chemical Companies published by the Japan Chemical Industry Association.

Environmental Accounting

Category	Scope	Unit	FY2017		FY2018		FY2019		FY2020		FY2021			
			Investment	Expenses	Investment	Expenses	Investment	Expenses	Investment	Expenses	Investment	Expenses		
Inside business areas	Pollution prevention	Air pollution prevention	Non-consolidated	Million yen	98.4	116.2	85.9	98.3	40.2	83.9	20.9	97.0	37.1	124.2
		Water pollution prevention	Non-consolidated	Million yen	24.7	239.2	40.6	223.9	70.5	148.0	109.7	174.8	266.9	178.9
		Underground seepage prevention	Non-consolidated	Million yen	5.9	13.2	52.0	6.0	13.4	10.0	5.5	3.7	4.9	5.6
		Noise and vibration prevention	Non-consolidated	Million yen	0.0	0.2	4.3	6.1	2.4	1.8	17.2	6.2	6.0	0.0
		Other	Non-consolidated	Million yen	-	160.6	-	190.6	-	386.0	-	435.0	-	394.7
	Global environment protection	Non-consolidated	Million yen	152.9	41.1	102.9	8.1	40.3	20.1	172.6	100.4	244.6	92.3	
Resource recycling	Non-consolidated	Million yen	66.1	500.1	3.9	565.3	30.9	576.7	106.6	709.8	111.2	772.2		
Upstream & downstream	Container and packaging recycling outsourcing	Non-consolidated	Million yen	-	0.4	-	1.0	-	1.0	-	0.4	-	0.3	
	Sewage processing	Non-consolidated	Million yen	-	81.7	-	90.9	-	90.3	-	78.7	-	75.2	
Management activity	System development and operation	Non-consolidated	Million yen	-	93.4	-	100.4	-	87.4	-	105.3	-	174.9	
	Environmental impact monitoring	Non-consolidated	Million yen	-	51.7	-	41.8	-	38.5	-	42.5	-	38.3	
	Information disclosure	Non-consolidated	Million yen	-	9.5	-	8.7	-	5.6	-	6.3	-	6.3	
	Education, training, and other	Non-consolidated	Million yen	-	88.9	-	88.6	-	80.1	-	59.4	-	59.3	
	Greening	Non-consolidated	Million yen	-	163.0	-	97.5	1.0	58.0	-	70.0	0.5	43.9	
R&D	Non-consolidated	Million yen	-	316.3	-	178.1	-	81.7	-	57.2	-	39.2		
Social activity	Non-consolidated	Million yen	-	9.0	-	8.7	-	9.7	-	8.9	-	9.0		
Environmental damage	Non-consolidated	Million yen	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0		
Total*	Non-consolidated	Million yen	348.0	1,884.6	289.6	1,712.0	198.7	1,678.9	432.5	1,955.5	671.3	2,014.5		

* The total sum may be incongruent due to rounding.

Economic Effects from Environmental Protection Measures

Targets of evaluation of effects		Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021	
Inside business areas effects	Pollution control effect	Air pollution prevention	Non-consolidated	Million yen	0.0	0.0	0.0	0.0	0.0
		Water pollution prevention	Non-consolidated	Million yen	0.0	0.0	0.0	0.0	3.5
		Reduction of the amount of imposition on pollution load	Non-consolidated	Million yen	0.4	0.1	0.4	0.4	0.6
		Noise and vibration prevention	Non-consolidated	Million yen	0.0	0.0	0.0	0.0	0.0
	Global environment protection effect	Global warming prevention and energy conservation	Non-consolidated	Million yen	45.6	53.5	55.9	112.8	80.4
		Waste and recycling	Waste reduction	Non-consolidated	Million yen	1.6	2.1	9.5	9.5
	Sales of recycled resources		Non-consolidated	Million yen	13.3	12.8	12.9	10.5	17.3
	Other		Non-consolidated	Million yen	8.6	6.3	0.0	0.0	7.0
Upstream / downstream effects	Containers recycling	Non-consolidated	Million yen	0.0	69.6	62.6	73.6	54.2	
Other		Non-consolidated	Million yen	0.0	0.0	0.0	0.0	0.0	
Total*		Non-consolidated	Million yen	69.4	144.4	141.3	206.8	167.1	

* The total sum may be incongruent due to rounding.

Investments Related to the Environment and to Health and Safety

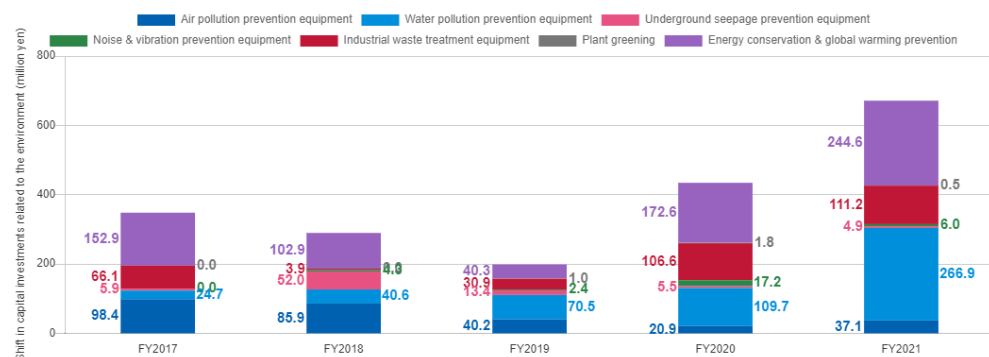
Nippon Kayaku makes well-planned and continual investments in projects related to the environment and safety and health. In FY2021, environment-related capital investment totaled 671.3 million yen, an increase of approximately 55% compared to the previous year. In particular, investments for equipment to prevent water pollution increased from 109.7 million yen to 266.9 million yen (or 2.4-fold), and investments for equipment related to energy saving and for global warming prevention increased from 172.6 million yen to 244.6 million yen (or 1.4-fold). Of the total equipment investment related to the environment, equipment for water pollution prevention amounted to approximately 40%, and that related to energy saving and global warming prevention amounted to approximately 36%. In addition, capital investment related to health and safety totaled 687.1 million yen for FY2021, an increase of about 30% from the previous year. Of that, investments to deal with aging equipment amounted to 490.9 million yen, which was an increase of 68% from the 292.9 million yen of the previous year, accounting for about 70% of the entire capital investment related to health and safety. Investments for dealing with natural disasters such as earthquakes, which increased significantly in the previous year, amounted to 4.4 million yen for this year, which was less than 10% of the capital investment of the previous year, thereby indicating that countermeasures against disasters have reached a certain level of completion.

Environment-related Capital Investments

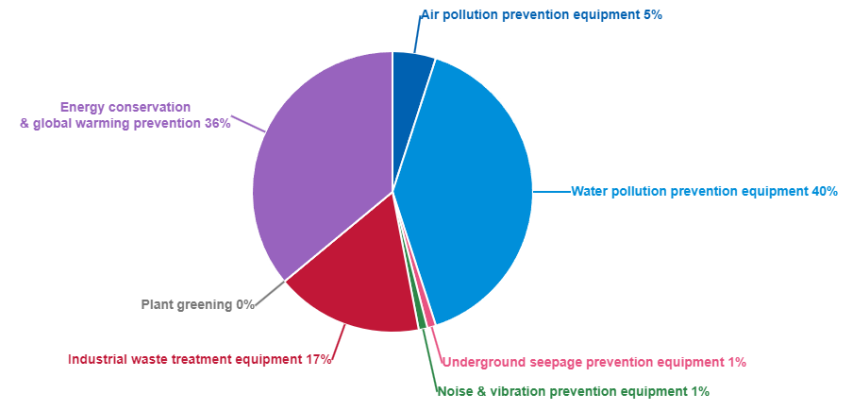
Category	Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Air pollution prevention equipment	Non-consolidated	Million yen	98.4	85.9	40.2	20.9	37.1
Water pollution prevention equipment	Non-consolidated	Million yen	24.7	40.6	70.5	109.7	266.9
Underground seepage prevention equipment	Non-consolidated	Million yen	5.9	52.0	13.4	5.5	4.9
Noise and vibration prevention equipment	Non-consolidated	Million yen	0.0	4.3	2.4	17.2	6.0
Industrial waste processing equipment	Non-consolidated	Million yen	66.1	3.9	30.9	106.6	111.2
Plant greening	Non-consolidated	Million yen	0.0	0.0	1.0	1.8	0.5
Energy conservation and global warming prevention	Non-consolidated	Million yen	152.9	102.9	40.3	172.6	244.6
Total*	Non-consolidated	Million yen	348.0	289.6	198.7	434.3	671.3

* The total sum may be incongruent due to rounding.

◆ Shift in Capital Investments Related to the Environment



◆ Breakdown of Capital Investments Related to the Environment (FY2021)

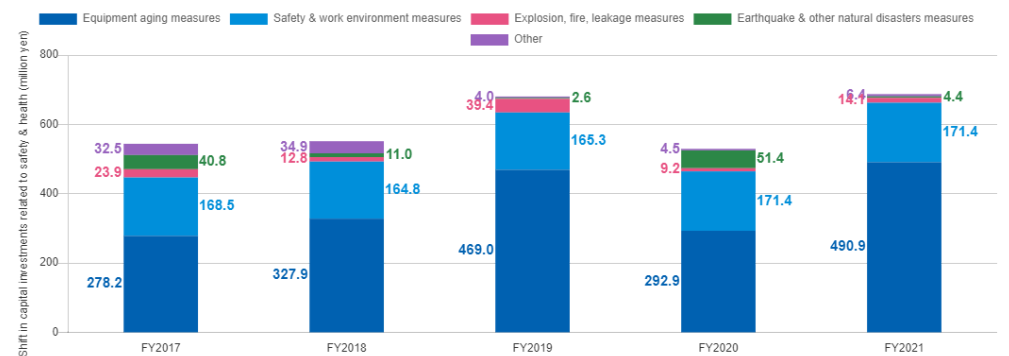


Safety- & Health-related Capital Investments

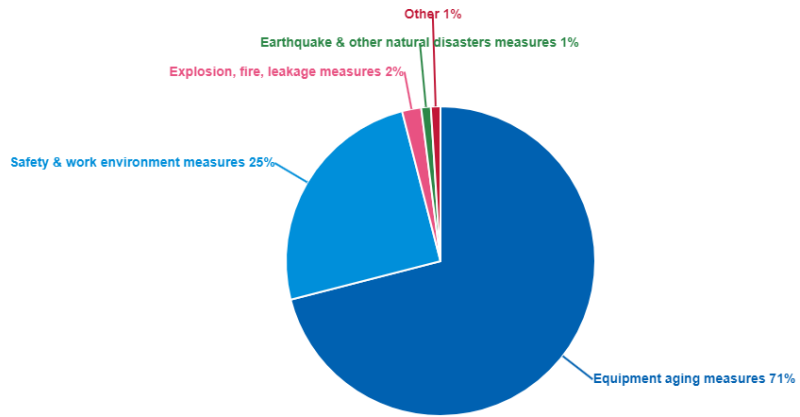
Category	Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Equipment aging measures	Non-consolidated	Million yen	278.2	327.9	469.0	292.9	490.9
Safety and work environment measures	Non-consolidated	Million yen	168.5	164.8	165.3	171.4	171.4
Explosion, fire and leakage measures	Non-consolidated	Million yen	23.9	12.8	39.4	9.2	14.1
Earthquake and other natural disasters measures	Non-consolidated	Million yen	40.8	11.0	2.6	51.4	4.4
Other	Non-consolidated	Million yen	32.5	34.9	4.0	4.5	6.4
Total*	Non-consolidated	Million yen	543.9	551.4	680.3	529.4	687.1

* Value for each item is rounded off, which often results in an inconsistency between the total value indicated and the aggregate of all the relevant items.

◆ Shift in Capital Investments Related to Safety & Health



◆ Breakdown of Capital Investments Related to Safety & Health (FY2021)



Social

[Important Issues] Quality and Customer Safety	57
[Important Issues] Occupational Health and Safety in the Workplace.....	62
Diversity & Inclusion	67
[Important Issues] Maintaining and Expanding Employment, Developing Human Resources.....	69
Health and Productivity Management	73
[Important Issues] Environmental and Social Considerations in the Supply Chain	75
Contribution to Local Communities	77

[Important Issues] Quality and Customer Safety

Policy and Basic Approach

The Nippon Kayaku Group has established a basic policy called the Declaration on Environment, Health and Safety, and Quality and has built a quality management system to continually deliver the best products that satisfy customers. We deploy various initiatives for quality across the entire company and work on quality assurance and quality improvement activities to increase customer satisfaction. We have also integrated the quality management systems of our Head Office and production bases for each of the business groups, aiming to prevent customer complaints and process abnormalities by further enhancing our quality improvement activities.

The Declaration on Environment, Health and Safety, and Quality

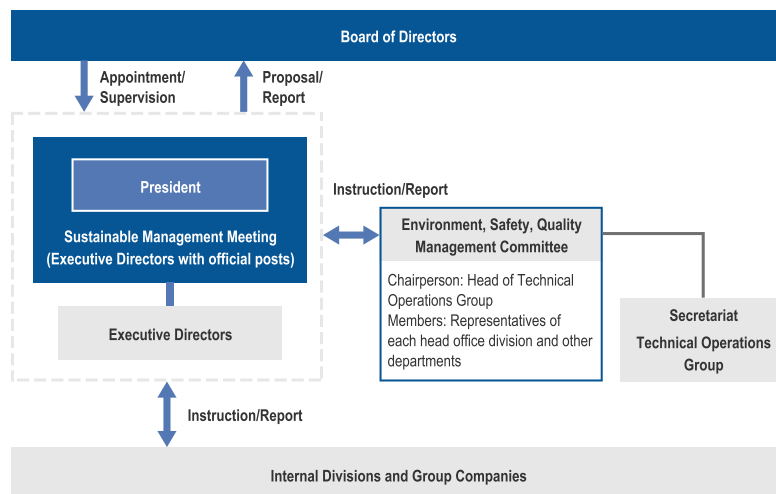
> [The Declaration on Environment, Health and Safety, and Quality](#)

System

Nippon Kayaku Group has established the "Environment, Safety, Quality Management Committee" as a specialized committee of the Sustainable Management Meeting to oversee quality assurance.

The committee is composed of the heads of the production or quality assurance department of each business group and the administrative departments at Head Office. It deliberates the issues related to the quality assurance policies and the status of quality improvement activities and countermeasures against them, reports the results to the Sustainable Management Meeting and strives to enhance the entire Nippon Kayaku Group's quality improvement activities.

Furthermore, each business group has established its own in-house quality assurance department as a cornerstone organization for the enhancement of its quality assurance system.



Acquisition of International Certification

The Nippon Kayaku Group has obtained international certification for its quality assurance systems in order to develop high-quality products and services that earn more trust and give more satisfaction to customers.

For the ISO 9001 international standard on quality management systems, we acquired certification for the Fukuyama, Asa, Tokyo and Kashima Plants in 1995. Subsequently, to further increase our customer satisfaction by conducting quality assurance activities in a comprehensive manner for our R&D, manufacturing, sales and service operations, we have acquired integrated ISO 9001 certification for the business groups and R&D department. Furthermore, we are striving to acquire the certification at our Group companies in Japan and abroad and enhancing our global quality assurance system in line with our business processes.

The members of the Functional Chemicals Group, including the Fukuyama, Asa and Tokyo Plants, the Head Office and laboratories, and Taiwan Nippon Kayaku Co., Ltd., started to operate their quality management systems in an integrated manner in October 2020 and acquired integrated ISO 9001 certification in July 2021.

The Pharmaceuticals Group, including the Takasaki Plant and the Pharmaceuticals Research Laboratories, acquired integrated certification for ISO 9001 and ISO 13485 (standard on quality management systems for medical equipment and in-vitro diagnostics) to enhance its quality assurance system. Moreover, the Takasaki Plant acquired a manufacturing license based on the Ministerial Ordinance on Standards for Manufacturing Control and Quality Control for Drugs and Quasi-drugs (GMP Ministerial Ordinance) and also acquired relevant certification in the United States and Europe (EU).

The Safety Systems Group, including the Himeji Plant and the Safety Systems Development Laboratories, has obtained certification for the IATF 16949 international standard on quality management systems set by the automobile industry's International Automotive Task Force (IATF). Outside Japan as well as in the country, Nippon Kayaku Group companies have obtained this certification in order to deliver products of even higher quality.

The Agrochemicals Division, including the Kashima Plant and the Agrochemicals Laboratories, started to operate its quality management systems in an integrated manner in March 2021 and obtained integrated ISO 9001 certification in August 2021 to further strengthen its quality assurance system.

List of the Nippon Kayaku Group's Business Sites with Certified Quality Management Systems

Business site	ISO9001	ISO13485	IATF16949
Fukuyama Plant	●		
Asa Plant	●		
Tokyo Plant	●		
Functional Chemicals Group (excluding the Polatechno Division)	●		
Functional Chemicals R&D Laboratories	●		
Taiwan Nippon Kayaku [Functional Chemicals Business]	●		
Polatechno Division	●		
Joetsu Plant	●		
WUXI POLATECHNO OPTICS	●		
Takasaki Plant	●	●	
Pharmaceuticals Group	●	●	
Pharmaceuticals Research Laboratories	●	●	
Himeji Plant			●
Safety Systems Group			●
Safety Systems Development Laboratories			●
Kashima Plant	●		
Agrochemicals Division	●		
Agrochemicals Laboratories	●		
NIPPON KAYAKU FOOD TECHNO	●		
MOXTEK	●		
Dejima Optical Films	●		
RaySpec	●		
KAYAKU Advanced Materials	●		
KAYAKU CHEMICAL (WUXI)	●		
WUXI ADVANCED KAYAKU CHEMICAL	●		
Kayaku Safety Systems Europe			●
Kayaku Safety Systems (Huzhou)			●
Kayaku Safety Systems de Mexico			●
Kayaku Safety Systems Malaysia			●

GMP-related Certification

The Takasaki Plant is licensed as a manufacturer under the Ministerial Ordinance on Standards for Manufacturing Control and Quality Control for Drugs and Quasi-drugs (GMP Ministerial Ordinance) and has also obtained relevant certification in the United States and Europe (EU).

◆ GMP Ministerial Ordinance*-related Certification

Business site	Major countries
Takasaki Plant	Japan, the United States and Europe

* The GMP Ministerial Ordinance was promulgated by the Ministry of Health and Welfare in 1980 and provides for the management procedures to be followed for the manufacture and supply of high-quality pharmaceuticals and medical equipment.

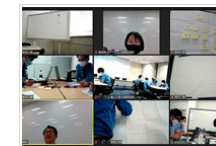
Promotion of Quality Assurance and Quality Improvement Activities

The Quality Management Division of the Technical Operations Group heads up the Nippon Kayaku Group's quality assurance and quality improvement activities.

We conduct quality assurance activities to enhance and improve employees' quality management skills to ensure stable quality through education and to reduce customer complaints and quality-related process abnormalities.

As a quality improvement activity, we are enhancing quality education by promoting in-house training for managers and practitioners of quality risk management and encouraging them to attend external quality training. To our laboratories we have introduced quality engineering and statistical methods to improve on-site design and development capabilities.

To verify that the Nippon Kayaku Group's quality management system is operating effectively, we conduct quality assessments of business sites in Japan and Group companies, including those outside Japan.



A photo of the "Why-Why Analysis Practical Training" online workshop, which connected all domestic business sites online. Participants learned some "why-why analysis" practice methods, doing exercises on examples from their own workplaces to deepen their understanding of analysis methods.

Quality Assurance and Quality Improvement Activities at Each Business Site

Each business site of the Nippon Kayaku Group deploys various types of quality assurance activities.

Also, we are building a database of quality process mishaps so that they can be shared across our business sites.

Quality Assurance Activities

- Quality patrol
- Trend management (visualization)
- Activities to prevent recurrences of quality troubles (why-why analysis, etc.)
- Enhancement of quality management technologies

Quality Improvement Activities

- Quality risk assessments
- Improvement of design and development capabilities
- Statistical analysis method ("Field Data Analysis—Learning Through Experience")
- Activities to prevent recurrences of quality troubles (why-why analysis, etc.)

Quality Risk Assessments

Whenever changes are made to a production process, such as an existing worker handing over to a new person or the installation of a new machine (that is, whenever so-called “4M” changes are made), we conduct a quality risk assessment to prevent quality issues before they occur. (The 4M changes means changes to “man,” “machine,” “material” or “method.”)

Educational Activities for Quality Assurance and Quality Improvement

As educational activities for quality assurance, we offer the “Field Data Analysis - Learning Through Experience” program geared toward researchers and developers for practical training on statistical analysis methods. We also send employees to take part in outside quality training and provide outreach teaching at plants as internal auditor training. Group training could not take place in person at the Hisho Training Center in FY2020 and FY2021 due to the pandemic but with the help of online videoconferencing we were able to connect all domestic business sites to hold training on measures against human error and practical training on “why-why analysis.” Given the advantages of holding the events online without the need for travel or accommodation, many people were able to join, making the training a big success.

At each of our plants, we utilize quality control (QC) methods such as using management diagrams and carry out quality patrols as part of our daily quality control activities to reduce customer complaints and quality process abnormalities.

Activities to Prevent Recurrence of Customer Complaints and Quality Process Abnormalities

In order to prevent the reoccurrence of similar customer complaints and quality process abnormalities, we encourage the use of Nippon Kayaku’s “why-why analysis” manual and the execution of the analysis at each of our workplaces. We have also built a database of quality process abnormalities on a companywide basis. In addition, we have published English and Chinese versions of the manual and are promoting “why-why analysis” also at Nippon Kayaku Group companies outside Japan.

Published the “why-why analysis” manual of the Nippon Kayaku Group

The Quality Management Division analyzed the quality abnormalities that had occurred in the past and found out that there were many similar cases due to a lack of ability to investigate the root cause of problems. We have therefore introduced “why-why analysis” with the aim of accurately understanding the relationship between cause and effect, identifying the underlying root cause and preventing the reoccurrence of similar cases. The first edition of the “why-why analysis” manual was created in Japanese by members selected from each plant, and the manual was subsequently translated into English and Chinese for use by Nippon Kayaku Group companies outside Japan.



History of our quality improvement activities

Nippon Kayaku’s initiatives for improving quality began with the voluntary introduction of statistical approaches to QC activities by plant engineers in 1948.

After receiving the Deming Prize in 1963, Nippon Kayaku organized its very first In-house QC Circle Conference in 1966 as an opportunity for employees to present the results of their QC activities. Since then, we have expanded the scope of these activities and changed the name of the event, first to the “Small Group Activity Meeting” open to all employees and then to the “Meeting of the Movement for Tomorrow,” inviting participants to make presentations on a wider range of themes, including not only quality improvement but also operational reforms, cost reductions, 5S activities, next-generation development, energy conservation, health and safety improvement, and environmental conservation. Nippon Kayaku Group companies outside Japan also now participate in the Meeting of the Movement for Tomorrow, as the event provides them with an opportunity to present their activities and interact with other Group bases. Since 2014, the QC activities have been revamped into small-group activities that focus not only on improvement but also on human resource development and sustainability.

Global quality control within the Safety Systems Group

The Safety Systems Group supplies automotive safety components to customers around the world, for which it needs to provide and guarantee a consistent standard of quality. The Safety Systems Group has production facilities worldwide, and the Quality Assurance Division at the Head Office and the Himeji Plant, the mother factory for the Safety Systems Business, provide each of the bases engaged in the business with quality management-related support. The Himeji Plant cooperates with other bases to grasp technological changes occurring in the industry and support them in adapting to those changes.

The Quality Assurance Division leads the bases in conducting quality improvement activities to build a global quality assurance system for the Group and increase and enhance its quality sensitivity.



Technical interns from Malaysia and members of the Himeji Plant's Quality Assurance Department

Initiatives

Pharmaceuticals Business

In the Pharmaceuticals Business, we have a website to provide patients and their families with useful information.

◆ Medical Information Service Center and Securing Customer Trust

The Medical Information Service Center accepts toll-free calls from patients and medical professionals with various questions relating to our pharmaceuticals and medical devices, such as anti-cancer drugs, treatments for autoimmune diseases and intravascular embolic materials. Staff at the Medical Information Service Center work diligently to provide accurate responses to each inquiry to ensure that all of the products supplied by Nippon Kayaku will perform at highest possible level. We also conduct surveys to check whether our responses meet the expectations of customers as part of our continual improvement initiatives.



Medical Information Service Center

Additionally, staff work with medical representatives (MRs) that visit medical facilities to ensure they can provide information that is beneficial to patients, while customer requests and opinions are communicated and reported to each relevant department in charge within the Company. The Medical Information Service Center is committed to improving medical care under the slogan, “Provide proper usage information and improve customer satisfaction in all situations.”

◆ Information Website

“IBD-INFO”

This is an information site for IBD patients.

IBD stands for inflammatory bowel disease. Generally, IBD refers to ulcerative colitis and Crohn’s disease. The IBD-INFO microsite provides easy-to-understand commentaries from healthcare professionals about the symptoms of ulcerative colitis and Crohn’s disease as well as about testing, diagnosis, treatment and daily care, among other topics.



The microsite features a host of different content about causes and symptoms, treatment methods, daily care, and public subsidies for defraying healthcare costs, so as to provide patients with an extensive resource of need-to-know information. Additionally, articles on the latest IBD treatment and care featuring interviews with specialist physicians are regularly published on the microsite as well.

The goal of this microsite is to broaden patient understanding and empower patients with the correct knowledge so that they will be more motivated during the treatment process.

> [IBD-INFO \(Japanese\)](#)

“RHEUMATISM RA-RA-RA”

The microsite “RHEUMATISM RA-RA-RA” was launched in February 2015 to educate people living with rheumatoid arthritis. This site was created with a commitment to serving as a close, everyday partner for people with rheumatoid arthritis by providing them with a place to turn to as a source of support.

The site, which is also compatible with smartphones, offers an easy-to-use platform that is user-friendly, including oversized icons that are easy to touch. The site offers various content covering the topics that patients want to know about, including the causes of rheumatoid arthritis, symptoms and treatment options, along with the medical costs involved and care services.

Additionally, the site provides information about Japan’s high-cost medical care benefit system accessible for the treatment of rheumatoid arthritis and also a medical cost reimbursement calculator. The video collection of exercises for rheumatoid arthritis patients selected by the editorial supervisor, who is a specialist in rheumatology, can be watched at home, allowing patients to try them out at their convenience.

The phrase “Feeling Happy” and the four-leaf clover mark form the logo used by Nippon Kayaku’s immunology business. We hope to play an integral role in patients’ lives, not least by providing them with emotional support. Offering new approaches, we support them in the treatment process and in improving their quality of life, hoping to help each patient live their life while “Feeling Happy”

> [RHEUMATISM RA-RA-RA \(Japanese\)](#)



“Breast Cancer Info Navi”

Breast Cancer Info Navi was launched in October 2006 as an informative website for breast cancer patients.

Containing information provided by specialist physicians and pharmacists, this website is designed to share such information with all women, not just breast cancer patients and their families.

The website is designed to help all women live the life they want.

> [Breast Cancer Info Navi \(Japanese\)](#)



Agrochemicals Business

◆ Contributing to Agricultural Production with Our New Insecticide (FINESAVE®)

Launched in June 2018, FINESAVE® is a new type of insecticide that is highly effective in killing thrips, silverleaf whiteflies, rust mites, cabbage moths and other pests that plague leeks, onions, tomatoes, strawberries, white radishes, cabbage and other types of produce.

Because FINESAVE® is a new kind of agent that does minimal harm to useful insects and the natural enemies of these pests, it can be used during the growing season, when the use of agricultural chemicals has traditionally been restricted. We are holding discussions with local instructional organizations regarding crop systems, the use of agrochemicals, etc. so that we can suggest ways to use this product efficiently and effectively while taking maximum advantage of its attributes. We are working hard to ensure that this agent can contribute to actual agricultural production in the future.



◆ Initiatives for Improving Crop Quality

For higher-quality crops and the production of safer crops, the Agrochemicals Division is proposing ways to use our existing products Leaf Guard® and Fumon® in combination with our new product FINESAVE®, which went on the market in June 2018 and is effective in killing such pests as thrips, rust mites and cabbage moths.

We are conducting marketing and sales promotion activities in which we propose the use of FINESAVE® and Leaf Guard® (which is effective on a broad range of eggs, larvae and adult insects) on major cabbage and Chinese cabbage pests like cabbage moths, which have thus far been fairly resistant to existing agrochemicals. In the activities, we also propose the use of FINESAVE® and Fumon® (which has the capabilities of a spiracle-blocking agent plus a spreading agent and is safe enough to use over and over until harvest time) on strawberries and the like.

We will continue our untiring efforts to improve the quality of future crops.



> [Website of the Agrochemicals Division \(Japanese\)](#)

[Important Issues] Occupational Health and Safety in the Workplace

Policy and Basic Approach

The Nippon Kayaku Group is promoting a range of health and safety activities to achieve zero serious accidents and injuries based on the Group's Responsible Care Policy. In particular, we focus on promoting 30-second patrols and fixed-point observations, regarding them as important Responsible Care items. As its corporate responsibility, the Nippon Kayaku Group is working for zero accidents and injuries and is committed to helping employees maintain their physical and mental health and work with peace of mind. Giving first priority to safety, we will continue to conduct occupational health and safety promotion activities toward the achievement of our medium-term business plan, **KAYAKU Vision 2025 (KV25)**, including activities to ensure the appropriate management of chemical substances and deal with natural disasters.

The Declaration on Environment, Health and Safety, and Quality

> [The Declaration on Environment, Health and Safety, and Quality](#)

Responsible Care in the Nippon Kayaku Group

Nippon Kayaku Group Responsible Care Policy (Items related to occupational health and safety)

◆ < Targets >

- Serious accidents / disasters: zero
- Serious environmental accidents / disasters: zero
- Serious traffic accidents: zero

◆ 1. Key issues in Responsible Care

- Bolstering 30-second patrols and implementing fixed-point observation

◆ 2. Initiatives aimed at achieving zero accidents and disasters

- Diagnostic methods with an emphasis on risk assessments
- Fixed-point observations tailored to the characteristics of each business location
- Inspections and optimization of measures against heat stroke

◆ 3. Improvement of occupational health and safety in the workplace

- Optimization of RC progress tables and visualization of activity status
- Compliance with changes in national chemical substance management policies (voluntary management through risk assessments of chemical substances)
- Training and enhancement of disaster information communication systems

Safety Performance

1. Safety Performance

The following table shows the safety performance of Nippon Kayaku's business sites and all Group companies inside and outside Japan for FY 2021.

As in FY 2020, the Nippon Kayaku Group experienced no serious accidents in FY 2021. There was one lost-time accident within the Group in FY 2021, while there were two such accidents in FY 2020. The number thus decreased year on year. We also had two non-lost-time accidents (minor injuries) in FY 2021, which was down by three from the five recorded in FY 2020. We had no non-injury accidents in FY 2021.

As for automobile accidents involving our medical representatives (MRs) during their working hours (including commuting time)*, we recorded no serious accidents in FY 2021, as in FY 2020. Although the total number of automobile accidents amounted to 19—larger than the six that occurred in FY 2020—it was nearly half that of the number recorded in FY 2019 (34 accidents), before the outbreak of COVID-19.

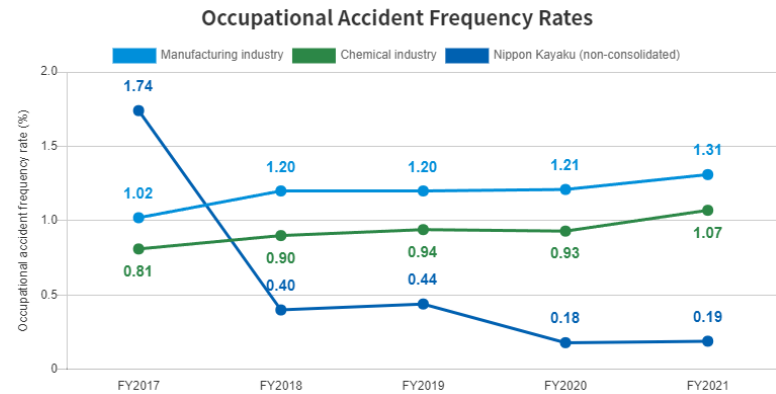
* The number of automobile accidents involving MRs who were using company-owned vehicles belonging to the Pharmaceuticals Group

◆ FY2021 Safety Performance

Item	FY2020			FY2021		
	Non-consolidated	Group	Total	Non-consolidated	Group	Total
(1) Serious accidents and injuries	0	0	0	0	0	0
(2) Environmental accidents	0	0	0	0	0	0
(3) Lost-time accidents	1	1	2	1	0	1
(4) Non-lost-time accidents (minor injuries)	3	2	5	2	0	2
(5) Non-injury accidents	1	0	1	0	0	0
(6) Automobile accidents involving MRs during working hours (incl. commuting)	Serious accidents	0		0		
	Personal injuries	0		1		
	Property damage	4		11		
	Self-inflicted	2		7		
	Total	6		19		

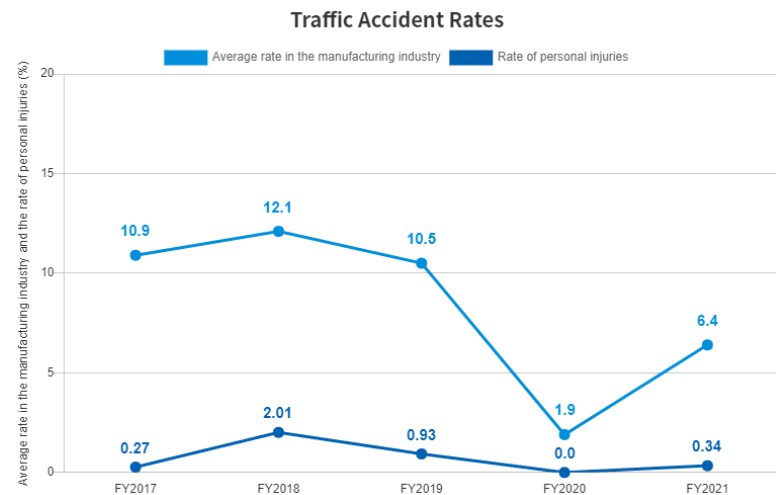
2. Graph Comparison of the Occupational Accident Frequency Rates

In FY 2017, Nippon Kayaku recorded an abrupt increase in its occupational accident frequency rate, which far exceeded the average rates of the manufacturing industry and the chemical industry. In response, we carefully examined the causes of the accidents and found out that non-regular work was involved in many of them. We have therefore included in our safety activities 30-second workplace patrol activities and fixed-point observations since FY 2018, with an eye to identifying unsafe behaviors and preventing non-regular work from leading to accidents or injuries. As a result, since FY 2018, Nippon Kayaku has been maintaining a low occupational accident frequency rate relative to the manufacturing industry and the chemical industry. For FY 2021, the rate came to 0.19.



3. Efforts to Prevent Traffic Accidents

The traffic accident rate of our MRs was 10.5% (34 cases) in FY 2019, decreasing to 1.9% (six cases) in FY 2020, partly because of the restrictions imposed on our activities due to COVID-19. For FY 2021, the rate increased again to 6.4% (19 cases) but is still lower than the rate that we recorded in FY 2019, before the outbreak of the pandemic. We will continue to work to bring the rate down.



Health and Safety Activities at Each Business Site

We define health and safety targets and are undertaking a wide range of health and safety activities at each of our business sites.

Details of the activities

- Risk Assessment
- 5S Activity*¹
- Hiyari-hatto Activity (Near-Miss incidents)
- KYT Activity
- TPM Activity*²

*1 5S Activity: 5S stands for sort, set, shine, standardize and sustain.

*2 Total Productive Maintenance (TPM) Activity: Conducted to maintain equipment and facilities in good working order to ensure safety and maintain productivity

◆ 1. Risk Assessment

Each of our business sites performs safety reviews for new processes and facilities and whenever changes are made to existing processes and facilities. Moreover, we make risk assessments to prevent injuries and environmental accidents at each of our business sites. We also analyze risk factors in chemical reactions based on HAZOP*.

* Hazard and Operability Study (HAZOP): Safety evaluation methodology used at chemical plants to exhaustively identify potential risks posed by chemical reactions for safety evaluation

◆ 2. Elimination of Shortcuts and Omissions

Accidents that have occurred within the Nippon Kayaku Group in recent years have tended to result from shortcuts or omissions. Accordingly, the Nippon Kayaku Group is working to share awareness across different workplaces by distributing workflow checklists to help eliminate shortcuts and omissions and requiring all employees to make a safety declaration, as well as displaying this safety declaration clearly in each workplace. The safety declaration is intended to help prevent not only occupational accidents but also traffic accidents.

◆ 3. Traffic Safety Initiatives

Many Nippon Kayaku Group employees commute to and from work by car and also drive a car for sales activities. We perform safe driving reviews using a camera-equipped drive recorder as well as using the driving aptitude test approved by the National Police Agency*. From now on, we will further enhance the education of new employees in practical skills to reduce traffic accidents involving our employees.

* Driving aptitude test approved by the National Police Agency: A written exam to check the examinee's aptitude for driving based on the person's answers to seven questions covering 11 items, including decision-making ability, impulse control and mental stability.

◆ 4. Deployment of AEDs

We have installed automated external defibrillators (AEDs) at our Head Office, plants and other business sites. We hold first-aid training as necessary and also provide employees with external training to deal with sudden heart attacks.



AED drill

◆ 5. Fire Response

Each of the Nippon Kayaku Group's business sites has a fire truck, fire hydrant and fire extinguisher for chemical substances in preparation against potential fire hazards. In addition to conducting firefighting drills on-site, employees also participate in local firefighting competitions, in which they have achieved good results.



Firefighting drill

> [Related article](#)

◆ 6. Measures against Natural Disasters

As a precaution against earthquakes and other natural disasters, we have compiled an Employee's Handbook of Disaster (Earthquake) Prevention at each business site and distributed copies to each employee. The handbook contains instructions on the emergency response to be followed in case of an earthquake, how to communicate and confirm each other's safety, and how to reach home when public transportation services are unavailable.

In the event of a disaster, such as an earthquake, the safety of employees is confirmed through our emailing-based safety reporting and communication system. For example, if an earthquake with seismic intensity of 6 or stronger occurs in Japan, the disaster response headquarters will instruct the system to send employees a safety confirmation email to which they can easily reply to facilitate data collection by the Company.

Initiatives

Kashima Plant Improving operator skills through the forklift certification program

There was a time when there were frequent occurrences of near misses involving forklifts at the Kashima Plant. The following initiatives were undertaken to prevent such incidents by improving the skills of forklift operators.



Improving operator skills through the forklift certification program

(1) Initiatives for improving skills

All forklift operators were required to take a practical skills short course led by an outside instructor covering the "basics of forklift operations" and "approaches to operator skills and educational guidelines."

(2) Introduction of operator certification program

Only those who pass the certification exam are allowed to operate forklifts (certification lasts for six months).

(3) Environmental improvements

A permanent training course was set up so that operators can practice and take practical exams at any time.

(4) Analysis of driver techniques

An omnidirectional driving recorder was installed on all forklifts to analyze operator conditions and habits using video footage.

Practical exam conducted in the training course

These initiatives have helped to drastically reduce the number of near misses involving forklifts. The Kashima Plant will continue to use this certification program in order to prevent accidents before they occur.

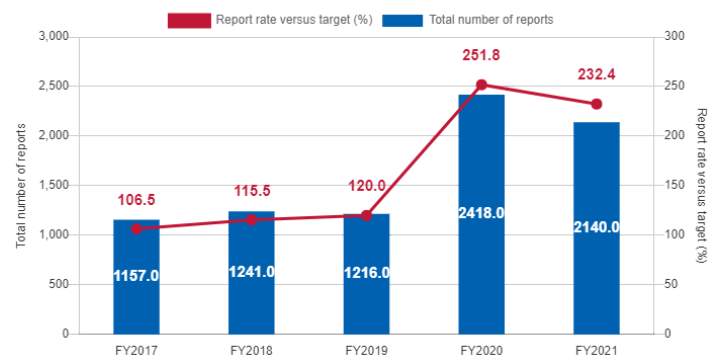
Joetsu Plant Safety education based on the use of a caught-in hazard simulator

Until 2017, the Joetsu Plant had minor work-related injuries including getting caught in roll machines almost every year. When analyzing the causes of the accidents, we found that 70% of them took place at the manufacturing department and nearly 80% of them occurred among new employees who had been with the Company for less than three years. In response, we improved our education system with the aim of eradicating such work-related injuries and have provided leaders of the manufacturing department with training to enhance their safety-related skills. We have also strengthened safety training for employees who are in their first three years at the Company to prevent the types of incidents that they tend to be involved in as they get used to their jobs. Specifically, the safety training is provided to employees in their first, second and third year at the Company with a focus on “5S/Awareness,” “KYT” and “Hiyari-hatto (near-miss incidents),” respectively. In this safety training lead by internal instructors, we utilize the simulation machine introduced in fiscal 2012 to provide hands-on experience of a “caught-in-machine” accident and teach trainees how to prevent this by using the photocell sensor, emergency stop button, and rope switch activator and proximity sensor functions. We also focus on the “Hiyari-hatto” activities with the aim of preventing work-related injuries by enhancing employees’ “improvement of awareness” and “mutual attention.” The target is to get employees to submit three or more “Hiyari-hatto” reports per year per person. In our manufacturing department, the activities are particularly strongly promoted.



Although work-related injuries occurred almost every year up to 2017, due to the activities mentioned above, there have been no such injuries since 2018, and the number of consecutive days of zero lost-time accidents has reached 1,670 (as of March 31, 2022). We will continue to execute a PDCA cycle to foster a corporate culture with a high level of safety awareness as the basis for our corporate activities.

Hiyari-hatto reports submitted by Joetsu Plant employees, and the report rate versus the target



Labor Union/Labor-management Relations

On June 1, 1998, Nippon Kayaku Co., Ltd. and the Nippon Kayaku labor union entered into a labor agreement “based on good faith and trust, in order to acknowledge the social significance and responsibilities of industry and labor, to mutually respect each other’s rights based on the spirit of the labor laws, and to establish stable and peaceful relations between labor and management.” Since then, this agreement has been renewed eight times in accordance with its purpose, so that today we maintain sound relations based on mutual trust between management and labor. Because Nippon Kayaku has a union shop system, with the exception of certain managerial and contract employees, all employees are members of the labor union. Nippon Kayaku and the labor union engage in active discussions, and the Company’s policy regarding these discussions is to be candid while disclosing as much information as possible. Also, the Central-Management-Labor Liaison Committee meets three times a year, at which time the executive team communicates the Company’s management policies as soon as the annual business plan, medium-term business plan and health and safety policy are finalized. A central management roundtable is held monthly to deepen mutual understanding, share information about the status of the Company and discuss how to solve problems. Also, we are making efforts to promptly communicate the outcome of these labor-management discussions to employees throughout the Company.

The labor agreement clearly states stipulations concerning discussions and negotiations. If there are major business-related changes that may have a profound impact on employees, employees and the employee representative are notified in advance. For example, notification of transfers requiring a change in residence are generally made at least one month in advance. Depending on the particulars, notifications and discussions occur even further in advance.

At the same time, with respect to issues faced by individual sites, we hold monthly business site management roundtables to obtain a shared recognition through discussions and opinion exchanges and to bring about a labor environment where employees can work in comfort.

Environment, Health and Safety Review

The Environment, Health and Safety Review is conducted at Nippon Kayaku’s business sites and certain Group companies based on the annual plan. This review process also involves the labor union of Nippon Kayaku, including its headquarters and branches located at the respective sites and Group companies.

During the review, regarding the Responsible Care policies and plans of the business sites and Group companies, the level of progress is checked, and the results of their Responsible Care activities are examined through meetings, documents and on-site audits. The labor union is also given an opportunity to point out issues for the improvement of the safety and health level of the entire company.

In FY 2021, however, to prevent the further spread of COVID-19, there were no physical inspections conducted at any of the targeted business sites or Group companies. Instead, a documentation inspection was conducted using a Responsible Care progress confirmation table compiled by the Environmental Protection & Safety Division. Also, the sites and Group companies were evaluated regarding how they had assessed the risks posed by their equipment, facilities and manufacturing processes.

Environment-, Health- and Safety-related Initiatives Implemented Jointly with the Labor Union

The Nippon Kayaku labor union conducts health and safety training titled the Level-Up Seminar (Health & Safety), which is co-hosted by the Company. The labor union puts safety at the top of its action policy and holds this training annually over two days. On the first day, participants attend a third-party specialist organization to take part in hands-on safety training about actual dangers, including getting caught in machinery and hanging from a safety harness, as well as why they need to follow the predefined rules. On the second day, members of the Environmental Protection & Safety Division lead lectures entitled “About learning safety measures from past accidents of Nippon Kayaku” and “How to strengthen safety awareness.” Also, the labor union holds a lecture called “Labor union safety initiatives” to explain the importance of a labor union tackling safety issues. After the lectures, a group discussion is held to allow participants to pick up and share valuable health and safety lessons and issues from each business site and each local branch of the union. In the discussion, they also focus on thinking about how to utilize and develop on the lessons learned and improve health and safety awareness at their own workplaces. Although the training was cancelled again in FY 2021 due to the pandemic, we plan to continue this initiative going forward.

In FY 2021, due to the restrictions imposed on people’s movement by the pandemic, the labor union conducted environmental, health and safety activities by using an online meeting system.

In addition to holding online seminars for mental healthcare, the labor union held lectures on Nippon Kayaku’s environmental activities and efforts to eliminate harassment by inviting employees of the Company to give talks.

Labor and management will continue to collaborate toward developing workplaces where employees can work safely and in good mental and physical health.

Diversity & Inclusion

Promoting Diversity & Inclusion

The Nippon Kayaku Group's Personnel System

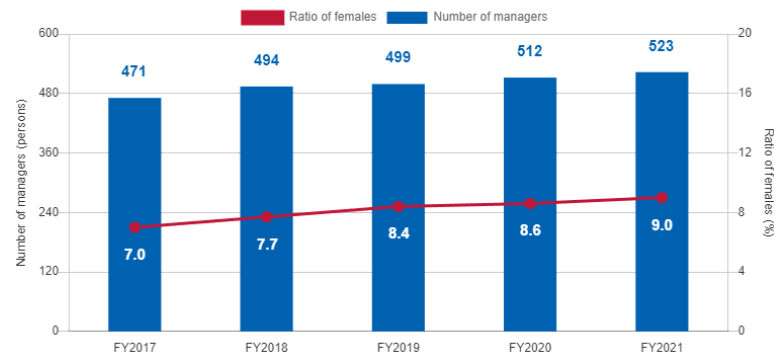
We have adopted a merit-based human resources system whereby employees can obtain job assignments and compensation that are not linked to their age, gender, career background or educational background, and are improving it in response to the demands of society. This system, which is based on individual roles and responsibilities, is also offered to management-class employees. Therefore, promotions to the managerial level can be achieved regardless of age, gender, academic history or career. As a result, the number of female managers continues to grow with each passing year.

Empowerment of Women

Proactive appointment of women to managerial positions is one aspect of the results of our initiatives to encourage diversity in the workplace. The ratio of our female managers increased to 9.0% as of the end of March 2022 (8.6% in previous year). The following target is to achieve 10% by the end of FY 2024. We will continue with our efforts to encourage the greater involvement of women in the workplace.



Percentage of Female Managers (*Nippon Kayaku non-consolidated basis; excluding seconded employees)



Employment of Persons with Disabilities

Nippon Kayaku employs people with disabilities. As of the end of March 2022, 49 people with disabilities are working with us (1.99% of total employees). Society demands that we move faster in hiring persons with disabilities and so we will foster collaboration with special needs schools to continue to hire people with intellectual disabilities. We will make more efforts to increase our rate of employment of people with disabilities beyond the statutory employment rate, while working to provide employees with disabilities with workplaces where they can feel satisfaction and demonstrate their respective abilities to the fullest.

Indicator	Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Percentage of employees with disabilities	Non-consolidated	%	2.08	1.82	1.97	1.90	1.99

Reemployment of Retirees as "Senior Partners"

Since April 2006, we have been implementing the Nippon Kayaku Senior Partner System to provide retirees who are physically and mentally healthy and eager to continue working with an opportunity to demonstrate the expertise and know-how that they have accumulated over the course of their career after reaching the age of retirement. We ask applicants to the system about where they want to work, in what jobs and in what employment format, and almost 100% of applicants are reemployed in accordance with their preferences, with most of them continuing to work for the Company until they reach the age of 65. As of the end of March 2022, we have 106 Senior Partners.

Indicator	Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Rehiring of retired employees	Non-consolidated	Persons	116	139	153	157	142
Rehiring rate of retired employees	Non-consolidated	%	60.9	62.7	70.5	84.1	57.6

Exchange of Global Human Resources

As one of the policy to promote diversity, we are working to build the environment all of staff belong to Nippon Kayaku Group be able to lead an active career in globalizing world. Aiming to develop language skills, we provide study-abroad programs, short-term intensive English programs and companywide TOEIC testing. Moreover, we provide employees assigned overseas as expatriates with training programs on various subjects including cross-culture training. In addition to the training programs, we will keep making efforts to develop global talent by means of promoting personal interactions between our bases in Japan and overseas Group companies and enhancing our support to allow employees to experience various cultures and business environments.

Hosting Interns from Overseas

Although we have been unable to do so recently due to COVID-19, Nippon Kayaku has been accepting internship students not only from Japan but also from universities overseas. The interns conduct various activities, mainly related to R&D, at Nippon Kayaku's laboratories to learn about the corporate world and local culture of Japan. Company employees, meanwhile, can get new inspiration from working with the young researchers. We will continue to accept internship students in order to globalize our corporate culture and contribute to Japan's international exchange of human resources.



Improvement of the Workplace Environment and Systems

The Nippon Kayaku Group is expanding in-house programs for gender equality and encouraging their utilization. In terms of our Next Generation Childcare Support measures, we have rolled out various programs that exceed legal requirements, beginning with our childcare leave program. For FY 2021, the percentage of qualified female employees who took childcare leave was 100% (11 employees), but for male employees, it was 27.2% (9 employees). The percentage of those who returned to their workplaces after taking childcare leave was 100% for both men and women. Going forward, we will seek to develop a workplace culture that encourages male employees to participate more in childcare.

Enhancement of the Special Paid Leave System

The Special Paid Leave System is a system whereby employees, in accordance with the Labor Standards Act, accrue special annual paid leave days that expire after two years and can be used for such purposes as caring for a family member, providing nursing care for a child, participating in training, volunteering, getting fertility treatments or donating bone marrow. No complicated procedures are required to use this program, as employees can simply apply by providing supporting proof of their activity. In addition, even after using the program once, employees can continue to accumulate paid leave to the maximum number of days allowed.

◆ Special Paid Leave System

Applicable Uses	No. of Days Allowed
To receive treatment for an injury or illness that requires at least 4 consecutive days of care / To receive outpatient services for rehabilitation or aftercare (within the stated period indicated on the physician-issued medical certificate)	Up to 60 days
To provide nursing care to an immediate family member, aunt or uncle	60 days
To participate in a training program or volunteer activities	30 days
Leave in conjunction with the use of active points from the Nippon Kayaku Cafeteria Plan	5 days
To take leave in order to receive a vaccination or medical exam for a child of preschool age	5 days
To receive fertility treatments	60 days
To allocate additional days to childcare leave	10 days
To provide nursing care for a child of preschool age	10 days

Work-life Balance

Giving priority to employees' health and from the perspectives of compliance and mental health, the Nippon Kayaku Group has implemented measures, such as establishing a special labor-management committee, to appropriately check the work hours of individual employees and take actions as needed for the enhanced management of working hours. Additionally, for a better work-life balance, we aim to increase the rate of paid leave days taken by employees. To this end, we have established a new anniversary paid leave system and taken other measures to encourage employees to take paid leave.

To reduce overtime work, we need to change our workplace culture and change the way employees think (work-style reform). To meet this requirement, we are promoting discussions through the special labor-management committee and provide managers with relevant education at each of our sites. Furthermore, in order to improve our operational productivity and create more value through work-style reforms, we are making steady efforts to provide employees with greater job satisfaction, rather than just reducing their overtime work.

Indicator	Scope	Unit	FY2017	FY2018	FY2019	FY2020	FY2021	
Total annual working hours per employee	Non-consolidated	Hours	1,833	1,919	1,911	1,885	1,911	
Average overtime per month (union members)	Non-consolidated	Hours	12.8	13.3	12.7	11.3	12.7	
Rate of annual paid leave days taken	Non-consolidated	%	59.2	61.1	60.1	65.8	59.8	
Employees who started maternity leave*	Non-consolidated	Persons	5	8	13	13	11	
Employees who started parental leave*	Male	Non-consolidated	Persons	1	3	5	11	9
	Female	Non-consolidated	Persons	5	8	13	13	11
Reinstatement rate after taking maternity or childcare leave	Male	Non-consolidated	%	100	100	100	100	100
	Female	Non-consolidated	%	100	100	100	100	100
Return to work rate after taking maternity/parental leave	Male	Non-consolidated	%	100	100	100	100	100
	Female	Non-consolidated	%	100	100	100	100	100
Employees working shorter hours for childcare	Male	Non-consolidated	Persons	1	2	2	0	1
	Female	Non-consolidated	Persons	23	26	31	43	42

* Excluding those who have been taking leave since the previous fiscal year

Formulation of a General Employers Action Plan Based on the Act on Advancement of Measures to Support Raising Next-Generation Children

We have formulated a General Employers Action Plan (for the period from April 1, 2022 to March 31, 2025) based on the Act on Advancement of Measures to Support Raising Next-Generation Children and submitted it to the Tokyo Labor Bureau.



Kurumin mark

[Important Issues] Maintaining and Expanding Employment, Developing Human Resources

Policy and Basic Approach

Message from the Executive Director in Charge

The Nippon Kayaku Group regards maintaining its role as an employer to be one of its social responsibilities. The Group also aims to be useful to society by expanding employment through broader business activities.

The source of the Group's growth lies in the growth of its employees, who are its most important asset. We will pursue human resources development by giving support to employees who are eager to grow and learn. To this end, we have included challenging items in our personnel system to help individual employees develop their skills and expertise while honing their unique attributes. We also provide them with a training-based support system so that they can autonomously transform themselves and grow through their jobs. Through these measures we will continue to support individual employees in developing the careers they want.



Managing Director and Member of the Board
Head of Administration Group
Hiroshi Mikami

Human Resource Development

People make a company. The driving force of our manufacturing, through which we provide people around the world with value, is therefore our people. As a company with history of more than one hundred years, we will continue to engage in human resources development toward our second centennial.

Training Programs

Various training programs are provided to employees according to their job positions. These comprehensive training programs are conducted so as to develop the next generation of skilled workers who will lead Nippon Kayaku in the future.



Training

◆ Mandatory programs

We offer mandatory training programs for new hires, employees who have completed their first and third years at the Company, those in their fifth year of service, and for mid-rank employees in accordance with their job types and positions. Through these programs we help employees take new steps forward by developing practical skills based on a recognition of the changes in their roles and competencies.

◆ Voluntary programs

A wide array of voluntary training programs are also available. These voluntary programs are tailored to specific jobs and personal characteristics. The programs are intended to help trainees work on self-improvement by improving their business skills and troubleshooting abilities.

◆ Selective programs

A program providing special leadership and management training is also available for those recommended by their bosses as promising candidates for the next generation of leaders and managers.

	By position		By job type		Selective programs		
	University graduates	Highschool graduates	Medical representatives (MRs)	Researchers & Engineers	Technical	Managerial	Global
Junior and mid-rank employees	New employee orientation		Introductory training Parts 1&2	Introductory information research	Introductory information research		
	Post-first-year training			Introductory patent application	Introductory patent application		International business manager support
			Follow-up training	Advanced patent application	Advanced patent application		Short-term study abroad (3 months and longer)
	Third-year training			Understanding patents	Understanding patents		Introductory English
			Interpersonal skills (MR)	R&D training	R&D training		Intermediate English
	Post-third-year training			Marketing	Marketing		Advanced English
	Career presentation				Interpersonal skills (MR)		
	Fifth-year training				Logical communication		
			Training to strengthen communication skills		Problem solving—KT method		
	Mid-rank employee training				Management simulations		
Leaders and managerial staff	Networking with other industries						Mandatory programs
	Self-improvement seminar (TPI)						Selective programs
	Business leader development						MRs Training & Education Dept.
	Newly appointed E-class employee training Part 1		Training for new managers	Training for managers			
	Newly appointed E-class employee training Part 2						
Senior manager training							

Initiatives

Fukuyama Plant Basic training unique to the plant

The Fukuyama Plant is a manufacturing base for functional materials and color materials. Back in 2013, the plant was expecting to lose a large number of experienced employees, including Senior Partners (reemployed retirees) and those reaching retirement age, over the coming years. The plant therefore made a plan to employ a large group of new workers, including mid-career hires, regarding the years immediately following 2013 as a critical period in which the technologies, including those to ensure safety, would have to be passed down. To accomplish this without any incidents or serious errors, the plant implemented training in 43 categories of basic skills to develop the required human resources base, giving consideration also to the need to nurture an active culture of passing on technologies from senior to junior staff. Specifically, plant leaders who were serving as chiefs of internal organizations or higher collaborated across their organizations to create teaching materials for the education of junior staff based on detailed examinations made for each of the 43 categories. Then, during the six-year period from 2014 to 2019, the leaders gave lectures using the created teaching materials with a focus on helping newly hired employees acquire more skills and knowledge.



Over the six years, the plant thus focused on the transfer of technologies from senior to junior staff. Then, in 2020, having determined that the transfer had been completed successfully, it shifted to a program under which new employees were given basic education that would supplement the companywide training provided by Nippon Kayaku and the external training seminars adopted by each of the in-house departments. Since then, based on the experience gained and teaching materials created during the six-year period, the plant has been maintaining an effective educational system while revising the materials and selecting instructors at meetings of cross-departmental working groups and inviting mid-rank employees, including section and team leaders, to plan lectures for new employees to help them acquire the necessary information and knowledge.

The plant is thereby promoting the establishment of a culture that encourages new employees to start receiving basic education with a sense of solidarity as members of a unified team and is also adopting DX education for higher operational efficiency. As COVID-19 has been imposing restrictions on collective learning, the plant is making use of e-learning tools while implementing drastic measures to prevent the further spread of the virus.

Joetsu Plant Education on IATF 16949 and the requirements to be met for automotive products

The ISO/TS 16949 standard for automotive products was revised to IATF 16949 in 2016, and the plant had been requested to conform to the standard by an increasing number of customers, including both existing and potential customers.

Furthermore, in order to expand the applications of its existing and new products (HUDs, SGFs, headlights and others), the plant was increasingly required to meet its customers' requests for IATF 16949-compliant quality management. It was thought, however, that on-site employees might be reluctant to accept the new standard for the existing quality management system. Based on this recognition, as the first step to conform to the new standard, the plant worked to raise awareness of IATF 16949 within the plant and help the related employees deepen their understanding of the need to meet the standard through education on both it and the requirements to be met for automotive products.

The target of this education was selected by each department, and as a result of a larger number of employees than expected showing an interest in the education, as many as around 150 employees received the education.

For FY2021, the plant planned to provide education on core tools to be used in actual business operations through face-to-face learning in groups. However, due to the limit imposed on the number of people who could be accommodated in the conference room because of COVID-19, we had to postpone the sessions.

For FY2022, the plant will provide education on the control plan described in 8.5.1.1 of the international standard for the improvement of on-site quality management.

Himeji Plant Education of young employees and quality improvement

The Himeji Plant is the domestic manufacturing base for the Safety Systems Business, in which we handle automotive safety components, and also serves as the mother plant for the bases outside Japan. In line with the global expansion of the business, the plant has been increasing its production, with the number of its employees being the largest among Nippon Kayaku's plants in Japan.

Against this backdrop, the number of young employees has been rapidly increasing through new hiring, and the plant was faced with a need to educate these employees. Accordingly, it built a systematic educational system for young employees and started to implement it in FY2019, aiming to enhance the comprehensive abilities of employees toward improving its product and operational quality. Since FY2018, the plant has also been implementing a quality education system for mid-rank employees and will promote human resource development through these two systems.

In the educational system for young employees, the plant offers not only classroom education but also practical training. For example, under the system, trainees learn about the effectiveness of Kanban production through a simulation using toy blocks. They also learn how to handle dangerous explosives, which are present at the plant. The plant reviews the details and method of the education from time to time to make further improvements ("Kaizen") for the provision of even more effective education.



Himeji Plant Establishment of “DOJO” education

The Safety Systems Group established an education center called the “DOJO” within the Himeji Plant and has been using it as a place for employee education and training since FY2018.

At the DOJO facilities, safety and quality rules (Do’s) and prohibited actions (Don’ts) are indicated in an easy-to-understand manner. Moreover, the facilities are equipped with necessary devices to provide employees with hands-on education on static electricity and others.

Also, experienced employees serve as instructors to help on-site supervisors (mid-rank employees) in the Safety Systems Group improve their skills by learning about the products, processes and past problems.

The plant also collaborates with the DOJO of the overseas subsidiaries belonging to the Safety Systems Group to improve the level of the entire Group.



Interpersonal Exchange within the Nippon Kayaku Group

Meeting on Movement for Tomorrow

Each year we hold the Meeting on Movement for Tomorrow, in which participants make companywide presentations on their activities for improving operational efficiency and productivity as well as the achievements made through human resource development and the development of new products.

We cancelled the FY2020 meeting due to the pandemic, and then held again for the first time in two years in FY2021. As it was difficult to hold such a well-attended meeting in person, we held it online instead. With around 350 people participating, we set a new record for the number of attendees.

Participating departments made presentations on their cases, and outstanding presentations were selected for commendation. The presentation meeting, which is intended to show appreciation for the daily activities conducted by employees, helps increase employees’ motivation for improvement activities. Moreover, sharing information through the presentations made by multiple business sites often helps participants hit upon new ideas and get tips for solving issues.



Kayaku Safety Systems de Mexico

Third round of the COE Program

“Change from Operator to Employee (COE)” program

Following the launch of the COE education program at Kayaku Safety Systems de Mexico, four employees completed the first round of the program implemented from 2014 to 2017 and another four finished the second round carried out from 2017 to 2019. COE stands for “Change from Operator to Employee” and the program is intended to provide workers hired as day laborers with an opportunity to become regular employees through education and training, thereby increasing their motivation.

In 2020, the plant started the third round of the program with the participation of 13 workers. The plant was aiming to provide them with education on leadership skills, teamwork and troubleshooting with a program completion date in September 2021, but the schedule was changed due to COVID-19. They will now complete the education in August 2023.



Meeting to Exchange Information about KAYAKU spirit Dream and Drive* Activities

At the ninth meeting to exchange information about KAYAKU spirit Dream and Drive (D&D) activities held in 2021, participants (D&D facilitators representing each plant) shared their ideas and concerns in a frank manner for the further promotion of the activities. This meeting has been held on a small scale so that all participants can express their opinions openly and engage in proactive discussions.

In the past it was held as a two-day event, but in FY2021, due to COVID-19, it was held as a one-day online event. At the meeting, six sites introduced how they were fostering D&D activities, with a broad range of themes covered, including higher productivity, higher operational efficiency, cost reduction and energy conservation.

Participants raised a great number of questions and proactively exchanged opinions and information.



* KAYAKU spirit Dream and Drive (D&D) activities: Improvement (“Kaizen”) activities conducted by all workplace members, in which they creatively devise measures to solve issues faced at their workplace toward sustainable management

Health and Productivity Management

Policy and Basic Approach

In 2017, the Nippon Kayaku Group revised its declaration on the environment, safety and health and released it anew as The Declaration on Environment, Health and Safety, and Quality. The mental and physical health of employees is essential to revitalizing the organization and increasing productivity and customer satisfaction. Based on this recognition, we are conducting activities focusing on employees' mental healthcare and lifestyle habits as well as those aimed at preventing exposure to chemical substances in daily business operations.

Nippon Kayaku Group Responsible Care Policy (Health-related items)

◆ < Target >

- Serious accidents / disasters: zero

◆ 3. Improvement of occupational health and safety in the workplace

- Compliance with changes in national chemical substance management policies (voluntary management through risk assessments of chemical substances)
- Identifying and following up on high-stress workplaces through stress checks and organizational analysis
- Establishing a management system by creating a database of health check results (due to commence operation this fiscal year)
- Continuously obtaining Health & Productivity Management Outstanding Organizations certification

The Declaration on Environment, Health and Safety, and Quality

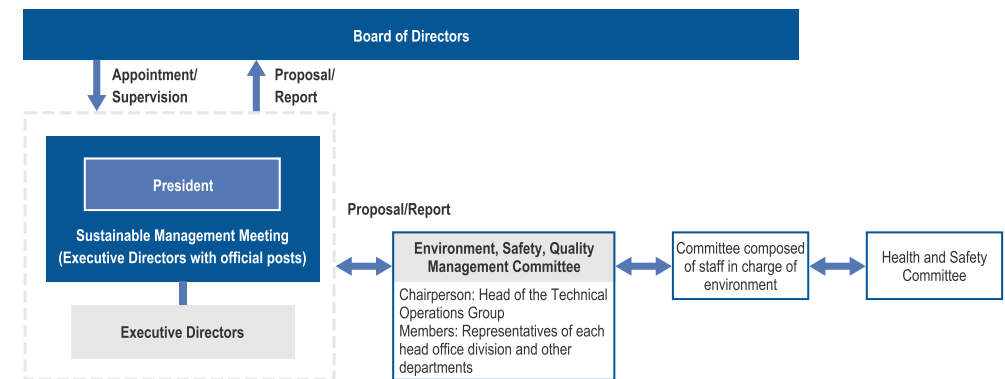
> [The Declaration on Environment, Health and Safety, and Quality](#)

System

Under the Nippon Kayaku Group's health and productivity management system, we have a committee that is chaired by the head of the Environmental Protection & Safety Division and is composed of staff in charge of environmental safety at Nippon Kayaku's sites and Group companies. This committee reports on the Responsible Care activities conducted by the entire company, each business site and each Group company and shares relevant information to discuss problems and important issues. Also, the Health and Safety Committee established at each business site and Group company holds meetings to check the on-site status of occupational health and safety activities and discuss identified problems.

Moreover, Nippon Kayaku and Nippon Kayaku Health Insurance Society for the health maintenance of employees and their families in an effective and efficient manner through the liaison meeting held for that purpose, where information is exchanged and reports and deliberations are made for health promotion.

Health and Productivity Management System



Promotion of Health and Productivity Management

Promotion of Health and Productivity Management

The Nippon Kayaku Group requires all employees to undergo regular health checkups as the basis for its health and productivity management. Employees receive advice and instructions from the industrial physician depending upon the results.

Moreover, for employees who work with specified chemical substances, we offer opportunities for special health checkups. We also have a database of information about the hazardousness of chemical substances handled by us, based on which we carry out risk assessments to prevent incidents and avoid damage to employees' health. In addition, at each business site, we are promoting THP* for employees' mental and physical health, aiming to help employees review their lifestyle habits and promote their health in a continuous and planned manner in order to lead even healthier lives. We also hold events such as a physical fitness test, a health management competition, a walking rally and hiking events for employees.

* THP stands for Total Health promotion Plan for the execution of a PDCA cycle that includes the formulation of a health promotion plan, health testing, health instructions, health promotion based on the instructions, and the improvement of lifestyle habits and revitalization of the workplace.

Initiatives for Mental Health

In order to improve operational efficiency and create greater value, it is crucial that employees be provided with workplaces where they can work with satisfaction and in good mental and physical health.

Nippon Kayaku made a declaration to introduce a mental healthcare system in the name of the president in 2005 and has since been providing managers with necessary instructions. For mental healthcare, it is important for all employees to continue to acquire accurate information and for the Company to be able to identify those who may be struggling with mental illness at work in order to help them at an early stage. We are therefore focusing on implementing health promotion measures by giving priority to the prevention of mental illness.

Specifically, we started to provide mental health training in FY2005 by inviting speakers from an EAP* provider to give lectures. Since FY2006, we have been implementing a three-year plan for all employees to receive the training. In FY2021, as in FY2020, we canceled group training due to COVID-19 and instead provided an e-learning seminar on self-care to help employees deal with the changes in their environment caused by the pandemic and other factors.

For those who take leave due to mental illness, we offer a reinstatement program to support their smooth return to work and prevent a relapse based on collaboration between their managers (company) and the industrial physician and counsellor in charge. As for the mandatory stress check program launched in December 2015 in line with the Industrial Safety and Health Act, we have been implementing necessary measures on an annual basis.

* EAP: Employee Assistance Program

Health Initiatives Implemented at Each Business Site

Measures for Sites without Statutory Industrial Physicians

For health management at our business sites where the appointment of an industrial physician was not required by law*, employees at these sites were unable to be interviewed by industrial physicians after undergoing their statutory health checkups or the screening for adult-onset diseases provided by Nippon Kayaku's health insurance association. In FY2013, we began to conduct examinations for these business sites and decided to send industrial physicians from the Head Office to interview employees at the sites as required.

In FY2014, industrial physicians from the Head Office began to visit these sites across Japan once a year according to a predefined schedule. We also make use of an online conference system for the interviews.

* Business sites where the appointment of an industrial physician is not required by law: As provided for in Article 13 of the Industrial Safety and Health Act and in Article 5 of the Order for Enforcement of Industrial Safety and Health Act, sites with less than 50 employees are not required to appoint an industrial physician.



[Important Issues]

Environmental and Social Considerations in the Supply Chain

Policy and Basic Approach

The Nippon Kayaku Group has formulated its Basic Procurement Principles and Basic Procurement Policy so that its purchasing activities will be consistent with sustainable management. We will work for the creation of a sustainable society in cooperation with all our suppliers.

Initiatives for Sustainable Procurement

The Nippon Kayaku Group is working with every member of its supply chain to bring about a sustainable society. To this end, we are conducting procurement activities while giving due consideration to human rights, protection of the environment, occupational health and safety, compliance with laws and regulations, and fair business practices. We have formulated our Basic Procurement Principles and Basic Procurement Policy, and in line with these guidelines have been engaging in procurement activities that are appropriate for sustainable management.

Basic Procurement Principles

In order to realize the **KAYAKU spirit**, Nippon Kayaku Group will pursue mutual and sustainable growth with suppliers based on the understanding they are important business partners who help us produce products of the best quality. We will strive to conduct procurement transactions that are fair, honest, impartial, and in accordance with relevant laws, social norms, and our Basic Procurement Policies.

Basic Procurement Policies

◆ Compliance with Relevant Laws, Social Norms, and the Nippon Kayaku Group Charter of Conduct

1. We will comply with all relevant laws and regulations when conducting procurement operations.
2. We will judge the propriety of procurement activities based on Nippon Kayaku Group Charter of Conduct and the Nippon Kayaku Group Code of Conduct and Group Action Guidelines.

◆ Open-door Policy, Fairness, Impartiality, and Transparency in Business Transactions

3. We will conduct procurement-related business transactions in a fair, impartial, and transparent manner, and follow an open-door policy with respect to businesses at home and abroad.
4. In order to ensure transparency in all our procurement activities, we will undertake due procedures based on written documentation or electronic purchasing systems in accordance with the procurement operations standards.

◆ Partnerships with Our Business Partners

5. We will build partnerships with suppliers based on mutual understanding and trust, and pursue mutual sustainable growth.

◆ Protection of Information

6. We will protect supplier-related information obtained in the course of our operations, and strive to prevent any information leakage.

◆ Concern for the Environment

7. We will promote the procurement of eco-friendly goods and materials.

◆ Basic Criteria for Selecting Suppliers

8. When selecting goods and materials, we will give due consideration to economic factors such as quality, price, and date of delivery. We will also consider other factors such as the supplier's operating foundations, technological competitiveness, and stability of supply.
9. When selecting suppliers, we will give due consideration to their commitment to realization of a sustainable society, including their observance of relevant laws and regulations, respect for human rights, concern for the working environment, disaster preparedness and safety measures, efforts toward environmental conservation, and other efforts designed to fulfill their Sustainable.
10. In addition to the above, we will give due consideration to whether or not the potential supplier has a risk management system such as BCP (Business Continuity Plan).

Promotion of Sustainable Procurement

The Nippon Kayaku Group published the Sustainable Procurement Guidebook, which includes the Nippon Kayaku Group Charter of Conduct, Basic Procurement Principles and Basic Procurement Policy, and is working to obtain the support of all our suppliers for sustainable procurement toward the creation of a sustainable society.

In line with the Guidebook, we are promoting sustainable procurement activities with all our suppliers across the supply chain, including those that we work with for R&D, the procurement of raw materials, manufacturing, sales, and logistics, while respecting human rights and giving consideration to environmental protection, occupational health and safety, legal compliance and fair business practices.

Our efforts to obtain our suppliers' understanding of our Sustainable Procurement Policy include briefings, daily communications and business meetings, and we also request each of them to sign an agreement stating that they will comply with the Sustainable Procurement Guidebook.

We will continue to fulfill our social responsibilities across the entire supply chain for the realization of a sustainable society, thereby gaining the respect and admiration of our customers.

> [Sustainable Procurement Guidebook](#)

Environmental and Social Assessment of Our Suppliers

In FY 2021, we conducted a questionnaire survey of top about 300 suppliers by purchase amounts. These 300 consisted of our primary suppliers and secondary suppliers from whom we had purchased materials in amounts during the past one year. In the questionnaire, we asked a total of 52 questions about human rights, health and safety, the environment, ethics, management systems, quality and product safety, information security, and BCP items in line with the Sustainable Procurement Guidebook, and 274 suppliers replied. For the respondents, we confirmed through their answers that they were causing no negative environmental or social impacts. We plan to continue doing this survey toward creating a sustainable society in cooperation with our suppliers.

Initiatives for Procurement Based on Business Continuity Planning (BCP)

Nippon Kayaku is constantly working to obtain up-to-date information on disasters and accidents that have taken place in its supply chain. When we receive such information, we share it across the board by immediately entering it into our in-house database. We also promptly compile a list of the raw materials produced by the affected countries of origin and manufacturers and check the impact on our procurement and inventories, the status regarding resumption of operations at the afflicted manufacturing facilities, and the impact of the incident on our production. We have diversified our procurement sources for many items in line with our BCP and are working to further strengthen these efforts so that we will be able to deal with any contingencies.

Initiatives to Ensure Transparency Regarding Nippon Kayaku's Relationships with Medical Facilities and Others

Initiatives to Ensure Transparency Regarding Nippon Kayaku's Relationships with Patient Groups

Nippon Kayaku has built relations of trust with researchers, medical practitioners, patient groups and other parties to contribute to promoting people's health through the provision of pharmaceuticals and other products. Supported by these relationships, we conduct basic research into medicine and pharmacology, engage in clinical development, offer and collect information after the manufacture and marketing of our products and implement safety measures. With regard to the cost of fostering drug discovery and the proper use of pharmaceuticals, we conclude agreements with medical facilities and others and pay compensation as appropriate. We also comply with the Act on Securing Quality, Efficacy and Safety of Products Including Pharmaceuticals and Medical Devices and other laws as well as with the voluntary norms set by the industry, such as the Japan Pharmaceutical Manufacturers Association (JPMA) Charter of Corporate Behavior, Code of Practice, Promotion Code for Prescription Drugs and Fair Competition Code. Although we conduct our business activities in compliance with these rules, because we are in a position to make donations and pay compensation to them, we are aware that there may be some appearance that we are exerting an influence over the decisions made by medical practitioners.

Based on the recognition that industries that support human life, including the pharmaceutical industry, need to conduct business activities with a high degree of ethics and transparency, Nippon Kayaku set guidelines on the disclosure of information about the provision of funds to medical facilities and patient groups, including information about payments made to such organizations.

> [Initiatives to Ensure Transparency regarding Nippon Kayaku's Relationships with Medical Facilities and Others \(Japanese\)](#)

> [Initiatives to Ensure Transparency regarding Nippon Kayaku's Relationships with Patient Groups \(Japanese\)](#)

Initiatives

Safety Systems Group

Annual Purchasing Conference

The Safety Systems Group organizes its Annual Purchasing Conference for key suppliers. At the conference, we share information about our earnings forecast for the current fiscal year, the business plan for subsequent fiscal years, the status of our production system, our development plan and medium- to long-term business vision, our procurement policy, and measures for the environment. We do this with an eye to providing suppliers with information that they can refer to when making their own business plans.

Suppliers to the automobile industry, including Nippon Kayaku, need to provide customers with high-quality but low-cost products by predefined deadlines, while making prompt responses to changes in the domestic and international situations, including changes in the materials market and the foreign exchange market. We are striving to provide our own suppliers with useful information through the Annual Purchasing Conference.

At the conference, we also commend suppliers who made exemplary responses to us in terms of quality, cost and deadlines as our outstanding partner companies.



Annual Purchasing Conference held in FY 2019

Contribution to Local Communities

Creating a Society Where People Can Lead Healthy and Affluent Lives

Asunaro House for Children with Intractable Diseases and Their Families

The Nippon Kayaku Group, as part of commemorative projects marking its 80th anniversary and under the motto of “Let’s assist children with intractable diseases and their families,” owns and operates Asunaro House. Located near central Saitama City, Saitama Prefecture, this extended-stay facility accommodates children undergoing hospitalization and treatment of illnesses and their accompanying family members.

With 10 private rooms of about 18 square meters that are able to accommodate two adults and a child, along with a large dining room and kitchen, the facility serves as a comfortable “home away from home.”

Current and former employees of Nippon Kayaku and its affiliates regularly perform volunteer cleaning and yard work at Asunaro House so that families can enjoy a pleasant stay.

Our goal is to offer a facility that provides opportunities for the families of sick children to find comfort in one another and helps alleviate the mental and financial burden on these families while safeguarding their privacy.

2,395 people

Total number of users per year *

159 families used the facility annually

* Jan. to Dec. 2021



Current and former employees volunteering to perform cleaning, yard work and others

Message

Since its founding 24 years ago, Asunaro House has hosted a total of 73,416 people and 3,799 families.

From all across Japan, more and more families are coming to us to receive expert and advanced treatments at nearby medical institutions offering pediatric care, including Saitama Children’s Medical Center, Saitama City Hospital and Yamato Acupuncture Clinic.

The number of families staying has been decreasing due to the outbreak of the COVID-19 pandemic in 2020, but we continue to host families daily while enacting measures to prevent the spread of infection.

Since accepting the position of House Manager in 2017, I’ve sought to give the premises a sense of seasonality through decorations and to incorporate new things I have learned through information exchanges with similar facilities nationwide, to make Asunaro House a home for those who stay here.

We will continue to make efforts every day to make this a “home away from home” where children battling intractable illness and their families can stay in safety, ease and comfort.

We cherish every “thank you” that we hear from children who leave the hospital and head back to their real homes with their families.

Yamaji, House Manager



Providing Support for LRI Activities

The Long-range Research Initiative (LRI) is a joint initiative of the chemical industries of Japan, the United States and Europe (specifically, the Japan Chemical Industry Association, the American Chemistry Council and the European Chemical Industry Council). As part of the voluntary activities of the International Council of Chemical Associations (ICCA), the LRI supports long-term research into the effects of chemicals on human health and the environment, with a focus on endocrine disrupting effects, neurotoxicity, chemical carcinogenesis, immunotoxicity and elaborating risk factors.

The Nippon Kayaku Group has actively supported the LRI since its launch in 1999 by offering financial support for LRI activities and attending meetings of the committee.

> [LRI](#)

Sports Promotion

The Nippon Kayaku Group works to support sports activities and holds in-house health promotion events. We will continue to advance a variety of social contribution activities to realize our Corporate Philosophy of safeguarding life and health and supporting comfortable lives.

◆ T.League Official Sponsor

We endorse and support the T.League philosophy of enriching lives through the world of table tennis.

Along with our support for the league, we will work to fulfill Nippon Kayaku's Corporate Philosophy of safeguarding life and health and supporting comfortable lives.

> [T.League official website](#)



◆ V League: Gold Partner, Wolfdogs Nagoya

Volleyball is a sport that connects players through play. We endorse and support the activities of Wolfdogs Nagoya, a team that upholds the idea of bringing people together.

> [Wolfdogs Nagoya official website \(Japanese\)](#)



◆ Participation in the Scrum Japan Program as a supporter

We serve as a supporter of Scrum Japan, a program launched by the Japan Rugby Football Union to carry out rugby-based activities to nurture and educate the children and adolescents who will one day shape our future.

Endorsing the program's aims, we will participate as a supporting member and provide support as a part of our social contribution activities.

> [Scrum Japan Program official website \(Japanese\)](#)



Nippon Kayaku Head Office

Certified as a 2021 Tokyo Metropolitan Government Sports Promotion Company

Nippon Kayaku was certified by the Bureau of Olympic and Paralympic Games Tokyo 2020 Preparation as a 2021 Tokyo Metropolitan Government Sports Promotion Company. Under the certification system for this program, the Tokyo Metropolitan Government recognizes companies that demonstrate outstanding efforts in promoting employees' sports activities and social contribution activities in the field of sports.

Nippon Kayaku will continue to engage in health promotion events and actively work to improve our employees' health.

> [Tokyo Metropolitan Government Sports Promotion Company Certification System](#)



Supporting the Development of the Next Generation

Initiatives to Develop the Next Generation of Leaders

To help raise the next generation of leaders, the Nippon Kayaku Group takes the following four approaches to teach children about the wonders of chemistry: outreach classes, learning collaboration, site visits and the organization of events.

In FY2021, due to the COVID-19 pandemic, we cancelled or postponed the planned events, or switched to holding them online.

Outreach Classes

Based on our own educational program, we develop outreach classes in line with elementary schools' guidelines and hold the classes at schools around our plants and research facilities.

◆ Outreach class: “Discovering the body! Mechanisms of the body and its relationship to medicine”

In this class, we provide a curriculum to teach students the following four concepts through experimentation, developed based on “Constitutions of the Human Body and Functions” as a science subject related to the pharmaceutical business.

1. How are nutrients absorbed into the bloodstream after being digested; how do they circulate throughout the body?
2. How do medicinal ingredients become absorbed into the bloodstream from the small intestine; how do they circulate throughout the body?
3. The close relationship between the efficacy of medicines and the body's mechanisms.
4. The efforts being made by pharmaceutical companies to devise various measures and develop products

Takasaki Plant Class for sixth-graders at Takasaki Iwahana Elementary School

An outreach class was hosted for sixth-graders at Takasaki Municipal Iwahana Elementary School in June 2019.

Employees from the Takasaki Plant with highly specialized knowledge acted as the teacher and teaching assistants.

Although somewhat out of their comfort zone, they strived to bond with the students so as to promote a clear understanding and share their advice. We will continue to hold outreach classes like this one in order to instill an interest in chemistry among schoolchildren, hoping that they will go on to be productive members of society.



Class held in FY 2019

Tokyo R&D Administration Office Class for sixth-graders at Kita City's Nadeshiko Elementary School

An outreach class was hosted for sixth-graders at Kita City's Nadeshiko Elementary School in July 2019.

Researchers from the Pharmaceuticals Research Laboratories and Functional Chemicals R&D Laboratories served as the teacher and teaching assistants. The students were captivated by the experiments performed and gave them their undivided attention. The outreach class experience was also appreciated by teachers at the school. Through this event, students were encouraged to learn more about chemistry as well as to understand more about Nippon Kayaku.

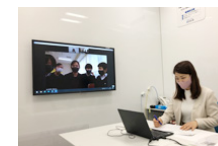


Class held in FY 2019

Learning Collaboration

Nippon Kayaku Head Office Collaborating on learning with Kudan Secondary School in Chiyoda City

Nippon Kayaku collaborates with Kudan Secondary School, located in the Company's previous head office area in Chiyoda City, Tokyo, to help children learn about the local area in the school's comprehensive learning classes. We have continued to do this as a local contribution activity even after relocating our headquarters to the Marunouchi area in 2014. Every year, we invite students to Nippon Kayaku for an introduction to the Company, a lesson on advertisement production, an explanation of an assignment, a company tour and other activities, with students presenting us with their completed assignment at a later date.



Assignment: “Think about an advertisement unique to Nippon Kayaku that would attract people's interest!”

This year, due to COVID-19, we held the event using a teleconferencing system. One of our employees who has created advertisements as a member of the public relations team gave a class on ads, discussing “what, how and to whom” an ad should communicate to be effective. Students put forth ideas and deepened their discussion in groups. They delivered an interim report one month later, then a final report using PowerPoint a month after that.

We will continue this effort as an aid to students' learning.

Site Visits

Himeji Plant Initiatives to cultivate the next generation

We invited sixth-graders from a nearby elementary school for a workshop to create fizzy tablets that resemble the gas-forming agents produced at our Himeji Plant.

The children also watched a video on the importance of airbags and the combustion of gunpowder, and experienced component and product quality inspections at our “DOJO” facility for in-house hands-on education.

We will continue to devise measures to communicate the fascination of science and the fun of creating things.



Workshop held in FY 2018

Events

Asa Plant Science Expo hosted by the City of Sanyo-Onoda “Using Chromatography to Make Round Fans” event for elementary and junior high school students

The Asa Plant participates in the annual Science Expo hosted by the City of Sanyo-Onoda. Under this year’s theme, “Let’s Play with Color,” we performed chromatography experiments and provided students with a chance to experience the world’s only round fan making event.

Children were able to get a sense of the wonders of science as we explained how to use color separation when making the fans.



Event for children held in FY 2019

Tokyo R&D Administration Office Held class for elementary school children during summer vacation

A summertime class for elementary school students between grades three and six was held at Nadeshiko Elementary School in Kita City, Tokyo in August 2019.

Members of our Tokyo R&D Administration Office and our other research laboratories collaborated in holding experiments using acrylic resins, which are photosetting resins. The children were excited to see the liquid acrylic resin become solid when exposed to light. Going forward, the office will continue to host events such as this for students to engage their interest in chemistry while learning more about Nippon Kayaku.



Class held in FY 2019

Tokyo R&D Administration Office and Head Office Hosted by the Japan Chemical Industry Association (JCIA) The Summer Children’s Science Experiment Show: Experience-based Classroom

Nippon Kayaku participated in the Summer Children’s Science Experiment Show for elementary school students held for two days on August 3 and 4, 2019, at the Science Museum (Kudanshita, Tokyo). More than 200 children took part in the event.

With the theme, “A Shiny Key Holder Made of Resin: The Riddle of a Strange Liquid That Hardens in the Light,” participants made objects using photosetting acrylic resin. This was the first time we chose photosetting resin as the theme for the Summer Children’s Science Experiment Show. Participating children had fun and cheered when they finished making unique key holders using shiny beads along with a decal of Kayakuma the Bear.



Class held in FY 2019

Kayaku Safety Systems de Mexico, S.A. de C.V. Educational support program

As part of its sustainability promotion activities, Kayaku Safety Systems de Mexico (KSM) holds an annual competition for its employees’ children with an eye to supporting their education. This program is intended to help motivate the children to greater learning. In the recent competition, each participating child drew a picture of Nippon Kayaku’s mascot, Kayakuma the Bear, guided by such themes as “commitment,” “teamwork” and “consideration to the environment and safety,” which are values upheld by KSM. Then, at the end of the event, each of the children was given a “scholastic kit” consisting of an official KSM backpack, useful school supplies and souvenirs.

KSM is thus supporting its employees’ children in their studies to promote their academic development and future careers.



Initiatives in Local Communities

The Nippon Kayaku Group strives to foster understanding of its business activities in local communities through festivals and open houses at its plants and facilities, educational programs, donations and other forms of support, blood drives, the Pink Ribbon campaign, clean-up campaigns and roundtable discussions.

Going forward, we will organize various platforms to proactively make exchanges and communicate with local people to be a company that is deeply rooted in the local community.

Nippon Kayaku's Agreements with Local Entities

Business Site	Agreement	Local Entity
Fukuyama Plant	Agreement on environmental pollution control	Hiroshima Prefecture and Fukuyama City
Asa Plant	Agreement on water pollution control	Yamaguchi Prefectural Fisheries Cooperative
	Agreement on environmental protection	Sanyo-Onoda City
Tokyo Plant	Green agreement	Adachi City
	Agreement on establishing Colored Effluent Issue Council	Tokyo Metropolitan Bureau of Sewerage No. 2 Control Office
	Agreement on mutual disaster relief support in case of an earthquake	Shinden Neighborhood Association and Shinden 1-chome Residents' Association in Adachi City
	Agreement to provide the general public with access to a small water pump storage facility	Senju Fire Department
Tokyo R&D Administration Office	Provision of firefighting facilities 1. Provision of water for firefighting 2. Deployment of a boat for rescues 3. Firefighting group cooperation site 4. Use of rooftop as a lookout	Tokyo Fire Department Akabane Fire Station
Takasaki Plant	Agreement on assistance from voluntary firefighting brigade	Regional fire departments including that of Takasaki City
Himeji Plant	Memorandum on effluent control	Himeji City
Kashima Plant	Agreement on environmental pollution control	Ibaraki Prefecture, Kashima City, Kamisu City

Asa Plant Ganbaro ASA! "Fireworks for hope"

Wanting to lift the spirits of spectators and give them a bit more hope for tomorrow, the plant organized a fireworks event again this year, as in the previous year, to express our gratitude to locals for their support and to medical practitioners for their efforts to stem the pandemic. With the support of local people, we were able to use a space in the Kaji port area of Sanyo-Onoda City to launch the fireworks. We also livestreamed the event for the first time on our official YouTube channel so that more people could view the 15-minute fireworks display. We were able to deliver a bit of cheer in the face of the pandemic, with spectators at the site applauding the colorful fireworks as they lit up the night sky. We would like to thank everyone who contributed to the event.



Tokyo Plant Granted a prize from each of the TFD Fire Chief and the president of the Tokyo Disaster Prevention & Emergency Medical Service Association

In November 2021, the Tokyo Plant received two prizes, one from the Tokyo Fire Department (TFD) Fire Chief and one from the president of the Tokyo Disaster Prevention & Emergency Medical Service Association.

The plant was granted the prizes in recognition of its long-term cooperation with the Senju Fire Department. The Tokyo Plant is one of only a few chemical plants that still exist in Tokyo and it has been fostering collaboration with the local fire department by holding a comprehensive disaster control drill every year and participating in the meetings held by the Senju Fire Department to review voluntary firefighting training.

The plant will continue its operation while giving first priority to safety.



Governance

[Important Issues] Strengthening Corporate Governance	
[Important Issues] Ensuring Compliance	83
[Important Issues] Risk Management	88
Intellectual Property	91

[Important Issues] Ensuring Compliance

Policy and Basic Approach

The Nippon Kayaku Group views compliance in a broad sense, considering it to mean not only abiding by laws and regulations, internal rules and rules of the industry, but also responding to social norms and the demands of society and continuing to earn the trust of diverse stakeholders.

As our group-wide standards of conduct, we established the Nippon Kayaku Group Charter of Conduct and Code of Conduct. We conduct business activities based on the spirit of these standards to fulfill our social responsibilities and contribute to society. The Nippon Kayaku Group firmly ensures compliance in its business activities, and will further promote its compliance activities under the strong leadership of its top management.

Nippon Kayaku Group Charter of Conduct and Code of Conduct

The Nippon Kayaku Group established [the Nippon Kayaku Group Charter of Conduct and Code of Conduct](#) in 2000, recognizing compliance to be a matter of highest priority in its corporate activities. Subsequently, in 2011, these were revised in view of ISO 26000 (Guidance on social responsibility for organizations), and in 2020 they were revised with the aim of spontaneously putting them into practice to help achieve a sustainable society.

The Nippon Kayaku Group Charter of Conduct

◆ Business activities

1. The Nippon Kayaku Group will provide products and services that satisfy customers through Communication with customers and the provision of appropriate information, giving due consideration to the safety and reliability of its products and services.
2. In all its business activities, the Nippon Kayaku Group will comply with all relevant laws and regulations, including competition law, the spirit of these laws, and internal regulations, and will engage in fair, transparent, and free competition. We will also maintain sound relationships with the governing authorities in all regions.
3. The Nippon Kayaku Group respects human rights in all its business activities, and will not discriminate or tolerate any inappropriate behavior for reasons based on gender, age, nationality, race, religion, or disability.
4. The Nippon Kayaku Group will appropriately manage and utilize the company's assets to improve the efficiency of its business activities and strive for continuous development.
5. The Nippon Kayaku Group implements systematic crisis management in preparation for the actions of anti-social forces that threaten the lives of citizens and corporate activities, as well as for terrorism, cyber attacks, natural disasters, and other events.

◆ Relationship with society

6. The Nippon Kayaku Group respects the cultures, religions and traditions of each country and region, works in harmony with society, and contributes to the development of society as a good corporate citizen.
7. The Nippon Kayaku Group will disclose information on its business activities to stakeholders in a timely and appropriate manner based on objective facts. We will also strive to increase corporate value through constructive dialogue with stakeholders.
8. In order to contribute to a sustainable society and the environment, the Nippon Kayaku Group strives to conduct its business activities in harmony with the natural environment by constantly taking into account the impact on the global environment, not only complying with relevant laws and regulations, but also establishing its own voluntary standards.

◆ Information handling

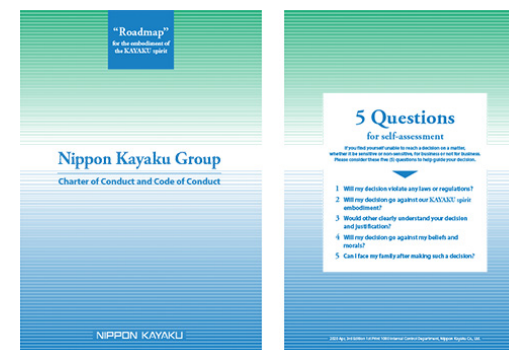
9. The Nippon Kayaku Group will appropriately protect the information it possesses through its business activities and take all possible measures for information management. In addition, we recognize the value of information assets and respect the intellectual property rights of others.

◆ Relationships between the company and individuals

10. The Nippon Kayaku Group complies with labor-related laws and regulations, ensures a safe and comfortable working environment, and respects the basic human rights, diversity, character, and individuality of individuals.

◆ Roles of top management and thorough adherence to this charter

11. Those involved in the management of the Nippon Kayaku Group recognize that realizing the spirit of this charter is their own role and responsibility, and will thoroughly disseminate it to all employees. In addition, we will listen to the opinions of people inside and outside the group, establish effective systems within the group, and ensure thorough implementation of corporate ethics. In the event of a situation that contravenes the spirit of this charter, we will clarify both inside and outside the company our stance of solving the problem, investigate the cause, and work to prevent any recurrence.



The Nippon Kayaku Group Charter of Conduct and Code of Conduct

Initiatives to Prevent Corruption and Anti-competitive Behavior

The Nippon Kayaku Group Charter of Conduct and Code of Conduct uphold that fair, transparent and free competition should be conducted in all business activities in compliance with both the letter and spirit of relevant laws and regulations, including competition laws, as well as internal rules. In addition, they prohibit bribery and other misconduct in relation to our business transactions.

Furthermore, to clarify our basic approach to the prevention of bribery, the scope of application, and rules to abide by, we have established the Nippon Kayaku Group Basic Policy on Anti-Bribery, which is widely embraced and practiced by our officers and employees, including Group companies in Japan and overseas.

Nippon Kayaku Group Basic Policy on Anti-Bribery

Established: June 21, 2021

◆ I . Preamble

Nippon Kayaku established the Nippon Kayaku Group Basic Policy on Anti-Bribery (hereinafter referred to as the Basic Policy) to clarify the basic concept, scope, and rules to be followed regarding the prevention of bribery, for declaration to both inside and outside the company. This basic policy applies to all officers and employees of the Nippon Kayaku Group (employees, junior employees, contract employees, advisors, contract workers, parttime workers, etc.).

◆ II . Overview

The Nippon Kayaku Group established the Nippon Kayaku Group Charter of Conduct and Code of Conduct to implement CSR management that is integrated with management strategy while maintaining a high level of ethical standards. This is aimed at realizing the corporate vision **KAYAKU spirit** of "continuing to provide society with the best products through constant progress and the combination of conscience."

The Charter of Conduct and Code of Conduct stipulates that; we will "comply with competition laws and other relevant laws and regulations, as well as their spirit and internal regulations, and engage in fair, transparent and free competition in all our business activities; that we will maintain sound relations with politics and the government;" and that we will "comply with relevant laws and regulations in each country and region, and respect international norms, cultures, religions and traditions."

Furthermore, the Nippon Kayaku Group considers the establishment and strengthening of anti-bribery systems both domestically and overseas to be an important issue to be addressed by the Group as a whole as we continue to expand our business globally year by year.

◆ III. Declaration

The Nippon Kayaku Group will comply with laws and regulations that prevent bribery in each country and region in which the Nippon Kayaku Group operates, including the Japan Anti-Unfair Competition Act, the U.S. International Anti-Corruption Act (Foreign Corrupt Practices Act:FCPA),the Bribery Act (Bribery Act:UKBA), and the Chinese Commercial Bribery Regulation. In addition, we will not act in a way that violates the Ethical Code for Public Employees of Japan, the Code of Ethics for National Public Employees, the ethical rules stipulated by special public corporations, local governments, etc., and the laws and regulations concerning the public employees*1 , etc. of each country.

◆ IV. Compliance items

1. Prohibition of Bribery of Public Officials, etc.
The Nippon Kayaku Group will not provide, offer or promise any illegal entertainment, gifts, benefits or other economic benefits*2, whether directly or indirectly, to domestic and overseas public employees or persons in similar positions ("public employees, etc.") with the aim of influencing their conduct of duties.
In the event public officials, etc. request the provision of illegal entertainment, gifts, benefits, or other economic benefits domestically or overseas, the Company shall refuse such request and notify the relevant organizations as appropriate.
2. Payment to agents, etc.
The Nippon Kayaku Group shall not make any payments to agents or consultants (hereinafter referred to as "Agents") in cases where any part of such payments are or may be diverted to illegal approaches to public officials, etc.
3. Entertainment and gifts to business partners other than public officials, etc.
In compliance with national laws, industry codes and internal regulations, we will not provide entertainment, gifts, or other economic benefits that exceed a reasonable range of social conventions to our domestic and overseas business partners, including their officers and employees.
4. Entertainment and gift-giving
We do not receive excessive entertainment from business partners or gifts of money that exceed the scope of social conventions.
5. Donation activity
Donations, such as grants and political contributions, will not be made for the purpose of fraudulently obtaining or securing business benefits.
6. Control of Records
We will prepare and maintain accounting records of all transactions and dispositions of assets, as appropriate and accurately as possible, to demonstrate that bribery has not occurred.

◆ Requests to Business Partners

This basic policy summarizes the Nippon Kayaku Group's approach to anti-bribery, and we believe that the understanding and cooperation of our business partners is essential to the implementation of this basic policy. If you encounter or suspect any violations to this basic policy or related laws or regulations, please notify your contact person at the Nippon Kayaku Group.

We also request that you cooperate in investigations by Nippon Kayaku Group companies or relevant authorities regarding alleged violations or violations.

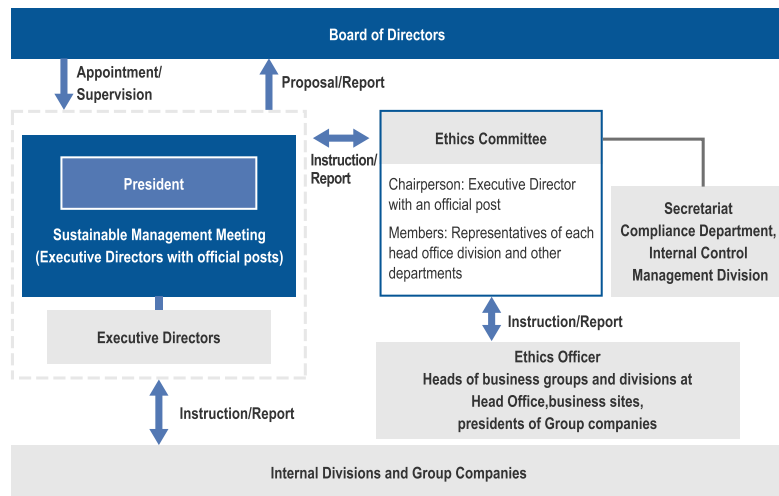
*1 "Public officers, etc." refers to those who are in charge of legislative, administrative, judicial, and other public affairs in each country or region, candidates for such services, officials of government agencies, employees of companies and other organizations owned and operated by the government, officers and employees of political parties, and officers and employees of public international organizations composed of countries, regions, and their governments.

*2 "Gifts, benefits, and other economic benefits" include all items that are equivalent to cash, such as gifts, services, employment, loans, travel expenses, food and beverage, invitations (sports tours, theatrical tours), donations, daily grants, and rewards, all of which are in profit, whether in their nominal terms. Provided, however, that this shall not apply to acts where the scope of the Anti-Corruption and Anti-Bribery Laws and Regulations applicable to each country or region is moderate in light of lawful and sound business practices and socially accepted norms.

System

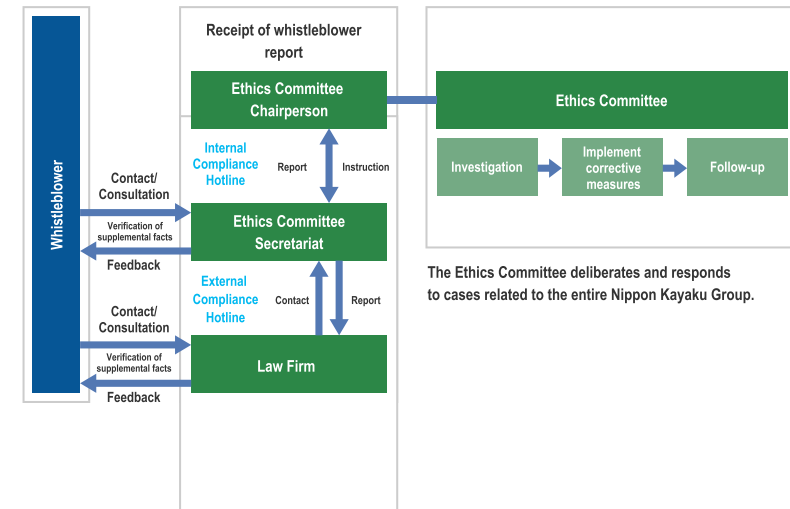
Ethics Committee (twice a year)

An Executive Director with an official post appointed by the president serves as the chairperson of the committee, which is comprised of representatives from each group and division at the Head Office. The committee makes decisions on policies and concrete measures pertaining to compliance with the Nippon Kayaku Group Charter of Conduct and Code of Conduct, and discusses and determines how to respond to reported matters and incidents, along with measures to prevent recurrence.



Whistleblower System

In an effort to prevent, or rectify at an early stage, incidents leading to the violation of compliance, we have in place, both inside and outside the Company, a Whistleblower System and a Compliance Hotline that ensure confidentiality and anonymity. Our Guidelines for Handling Whistleblower Complaints state that whistleblowers should be protected from any disadvantages resulting from reporting an incident.



Indicators

Number of Reported Matters for the Past Five Years

In FY2021, the hotline received four reports, but none of these incidents were serious enough to affect our business operations. With regard to these reports, we ascertained the facts, conducted investigations and took corrective action as necessary. We will continue to announce updates on the whistleblower system and its significance in order to prevent, detect at an early stage or prevent the escalation of injustice and misconduct.

Nature of reports	FY2017	FY2018	FY2019	FY2020	FY2021
Harassment including workplace bullying and sexual harassment	2	4	8	6	2
Violation of company rules and etiquette	1	3	2	0	0
Labor/management relations	0	2	1	1	1
Others	0	0	0	0	1
Total	3	9	11	7	4

Political Donations

The following donations were made to political organizations from FY2017 to FY2021.
(In millions of yen)

FY2017	FY2018	FY2019	FY2020	FY2021
1.15	1.15	1.18	1.13	1.04

Initiatives

Compliance Month and Compliance Awareness Survey

In Japan, the Nippon Kayaku Group designates October as Compliance Month, during which it conducts a compliance awareness survey.

In the process of aggregating and analyzing the survey results, we identify issues concerning the promotion of compliance in each workplace, provide objective feedback including improvement suggestions and comparisons with other companies, and request corrective action. Based on the feedback, each workplace formulates a Compliance Action Plan for the following fiscal year, implementing the PDCA cycle to raise awareness.

In analyzing the survey results, we have been working with a consultant firm since FY2015.

Compliance Education and Training

The Nippon Kayaku Group holds domestic compliance education and training on different themes every year, and uses regular meetings at business sites to conduct study groups and training based on case studies. The FY2021 compliance training was themed on “Revision of the Guidelines for Handling Whistleblower Complaints / Establishment of the Nippon Kayaku Group Basic Policy on Anti-Bribery.” Most training sessions at Nippon Kayaku take the form of e-learning so that every employee has the opportunity to take the programs being offered. For our affiliates, we primarily offered group training.

Name of training program	Main target	Main themes covered	Training format	Number of sessions
FY2021 Compliance Training	Officers/employees	Guidelines for Handling Whistleblower Complaints / Nippon Kayaku Group Basic Policy on Anti-Bribery	e-learning/group training	1
Workplace Compliance Training	Employees	Insider trading, prohibition of conflicts of interest, harassment, etc.	e-learning/group training	6
Compliance Training	New employees	Compliance basics, Charter of Conduct and Code of Conduct, Compliance Hotline, etc.	Online	2
Compliance Training	New E grade employees	Charter of Conduct and Code of Conduct, harassment, Compliance Hotline, etc.	Online/group training	2
Compliance Training	Expatriates	Charter of Conduct and Code of Conduct, Basic Policy on Anti-Bribery, etc.	Online/in-person	10

Raising Awareness at Overseas Group Companies

Nippon Kayaku's overseas Group companies account for almost half of the Group's sales and more than half of its employees. In particular, our seven Group companies in China have almost 1,000 employees, among whom we crucially need to instill the **KAYAKU spirit** and our commitment to compliance.

The general managers and ethics officers from our Group companies in China gather annually to hold the Ethics Officer Conference, where they report compliance initiatives and issues experienced at each company, identify problems and discuss what measures should be taken.

Furthermore, the Company's Internal Control Management Division and legal personnel from KSC* work together to hold compliance training for local employees at each company.

We will continue taking into account the situation in each country, and strengthen ties among departments so that we can implement more effective and efficient global compliance activities.



FY2019 training at a Group company in China



* KSC stands for Kayaku (Shanghai) Co., Ltd., a management service company in China.

High Standards of Ethics and Transparency in Pharmaceuticals Business

It is incumbent upon pharmaceutical companies to consistently ensure high standards of ethics and transparency in their business activities, to establish relationships of trust with external stakeholders including medical, dental and pharmaceutical researchers and healthcare professionals, wholesalers, patient groups, etc., and to make efforts to ensure that optimal and ethical medical care is provided from the standpoint of patients.

Nippon Kayaku established the Nippon Kayaku Code of Practice as a standard against which its directors and employees can determine whether their own acts are in keeping with the Japan Pharmaceutical Manufacturers Association (JPMA) Code of Practice. By thus underscoring and firmly sharing our commitment to corporate ethics and compliance, which are the foundation of our business activities, we proceed with our business with a highly ethical mindset in adherence to the code.

▶ [Commitment to Compliance based on Nippon Kayaku Code of Practice](#)

Compliance Hotline for Suppliers

The Nippon Kayaku Group has established a Compliance Hotline for Suppliers to report acts in violation of laws and regulations. Please read items 1 through 5 and seek advice or report an incident via “6. Compliance Hotline for Suppliers” if you wish to do so.

1. Eligible hotline users
All officers and employees of suppliers engaged in business transactions with the domestic Nippon Kayaku Group.
2. When to make a report
When any officer or employee of a Nippon Kayaku Group company in Japan is identified as engaging in, or having the intention to engage in, an illegal or unethical act.
3. Contact for reporting
Ethics Committee administration office, Nippon Kayaku Co., Ltd.
4. Request to hotline users
Hotline users should specify their full name and the name of their company/affiliation. We do accept reports if the hotline user wishes to remain anonymous, but please be advised that this may hinder fact-checking and other investigations and prevent us from offering the hotline user a response, including regarding investigation findings and measures to prevent recurrence.
5. Protection of hotline users
The personal information of hotline users will be used exclusively for matters related to an investigation and other steps necessary to look into the reported incident, and will be handled with the utmost care based on the Company's Personal Information Protection Policy.
6. Reporting method
Reports should be submitted via the [“Compliance Hotline for Suppliers.”](#)

Commitment to Compliance Based on Nippon Kayaku Code of Practice

Establishment of Nippon Kayaku Code of Practice

It is incumbent upon pharmaceutical companies to consistently ensure high standards of ethics and transparency in their business activities, to establish relationships of trust with external stakeholders including medical, dental and pharmaceutical researchers and healthcare professionals, wholesalers, patient groups, etc., and to make efforts to ensure that optimal and ethical medical care is provided from the standpoint of patients.

In 2013, the Japan Pharmaceutical Manufacturers Association (JPMA) established the JPMA Code of Practice for all officers and employees of its member companies to follow in interacting with researchers, healthcare professionals, patient groups, etc., in line with the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) Code of Practice.

Nippon Kayaku established the Nippon Kayaku Code of Practice as a standard against which its officers and employees can determine whether their own acts are in keeping with the JPMA Code of Practice. By thus underscoring and firmly sharing our commitment to corporate ethics and compliance, which are the foundation of our business activities, we proceed with our business with a highly ethical mindset in adherence to the code.

Concrete Initiatives for Ensuring Compliance

Providing Information on Pharmaceuticals and Securing Transparency

The progress of medicine, pharmacy and medical engineering and enhancement of public health are built on our interactions with researchers and healthcare professionals and collaborations with patient groups and other bodies. We need to be accountable for such interactions and collaborations, ensuring that they are conducted ethically and in good faith. To this end, we annually disclose any funding we provide in relation to these acts on our website to ensure transparency of corporate activity information based on our own guidelines created in line with JPMA's "Guidelines for Transparency of Relationship between Pharmaceutical Companies and Medical Institutions, etc." and "Guidelines for Transparency of Relationship between Corporate Activities and Patient Organizations."

Creating, Verifying and Providing Information Materials for Pharmaceuticals, etc.

Information materials play an extremely important role in providing pharmaceutical information to ensure the appropriate use of prescription drugs. Their contents must therefore be based on scientific evidence and created and used in an accurate, fair and objective manner. For this reason, Nippon Kayaku has set forth a Review Procedure in compliance with such laws and regulations as the Act on Securing Quality, Efficacy and Safety of Products Including Pharmaceuticals and Medical Devices (hereinafter, "Pharmaceuticals and Medical Devices Act"), Guidelines for Provision of Sales Information on Prescription Drugs, JPMA Code of Practice and Guideline for Preparation of Product Overview for Prescription Drug, and tasks the Review Committee, which is comprised of expert committee members including in-house medical doctors, with conducting appropriate reviews. In addition, our internal monitoring system keeps activities for the provision of sales information in check and provides instructions to make sure that they do not deviate from the Guidelines for Provision of Sales Information on Prescription Drugs.

Providing Ongoing Education and Training to Employees

To execute ongoing corporate activities with a highly ethical mindset, it is imperative that all our officers and employees become versed in the Nippon Kayaku Code of Practice. In support of JPMA's initiative to promote understanding of its code, we set concrete goals to be pursued by each group and workplace with the aim of optimizing our corporate activities, and regularly implement education and training tailored for each business site.

Roles of Code Compliance Committee in Ensuring Adherence to Nippon Kayaku Code of Practice

Nippon Kayaku has in place the Pharmaceuticals Group Code Compliance Committee (hereinafter, "the Committee") as a body for promoting compliance within the Pharmaceuticals Group, and for building an internal system to ensure our compliance with related laws including the Pharmaceuticals and Medical Devices Act and Antimonopoly Act, government guidelines including the Guidelines for Provision of Sales Information on Prescription Drugs and voluntary industry standards including the Fair Competition Code concerning Restriction on Premium Offers in Ethical Pharmaceutical Drugs Marketing Industry and JPMA Code of Practice.

While striving to promote compliance within the Pharmaceuticals Group, the Committee, pursuant to the Nippon Kayaku Code of Practice, aims to establish and revise the internal operating rules and procedures required for ensuring that our officers and employees comply with related laws and voluntary standards in their interactions with stakeholders, and to make sure that the rules and procedures are widely embraced by all and embedded in the corporate culture.

In the event that a serious violation of any law related to pharmaceuticals, the Guidelines for Provision of Sales Information on Prescription Drugs or any important code occurs, the Committee responds to the incident and discusses and determines measures to prevent recurrence. Moreover, when a violation of any code including the Guidelines for Transparency or noncompliance is identified, the Committee holds a meeting to discuss and determine measures to prevent recurrence.

Ensuring Compliance in Overseas Activities

When providing pharmaceutical information to healthcare professionals overseas or inviting healthcare professionals in Japan to attend lectures and conferences held overseas, or when a subsidiary in an overseas country assigns its non-Japanese licensees or agents to engage in activities in the applicable country based on a licensing or agency agreement, all individuals involved are expected to respect the Nippon Kayaku Code of Practice, and comply with the relevant laws of the applicable country and its pharmaceutical industry association code if there is one, or the IFPMA Code of Practice if there is not.

[Important Issues] Risk Management

Policy and Basic Approach

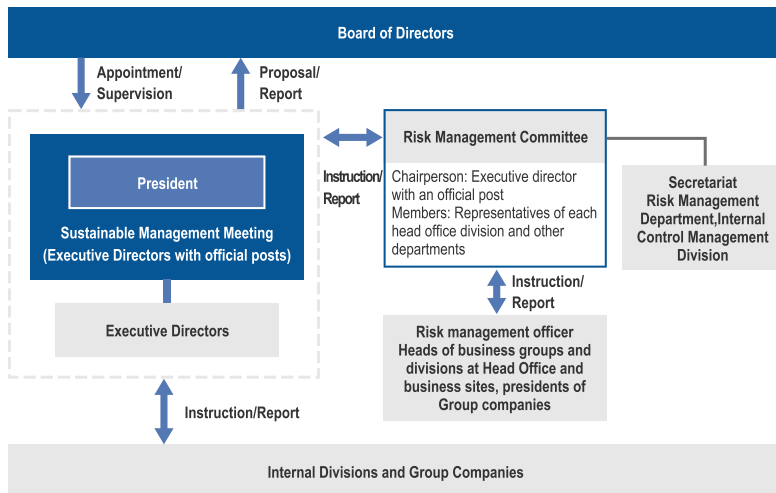
The Nippon Kayaku Group's risk management policy is to address various risks related to its business and secure business continuity by maintaining the production system, procuring appropriate raw materials and strengthening measures against disasters.

To restore our business within a predetermined target time in the event of an emergency such as a disaster, the Head Office and each business division and plant have established their own business continuity plan (BCP) manuals and our overseas business sites are also preparing their own versions of the manuals.

System

Risk Management Committee (twice a year)

The Nippon Kayaku Group has in place a Risk Management Committee chaired by an executive director with an official post appointed by the president and comprised of representatives from each group and division at the Head Office. The committee configures and manages a risk management system to prevent risks that could inflict serious damage on the Nippon Kayaku Group's corporate management and business activities, respond to emergencies and recover from any damage inflicted by a crisis when it comes to an end.



Securing Business Continuity

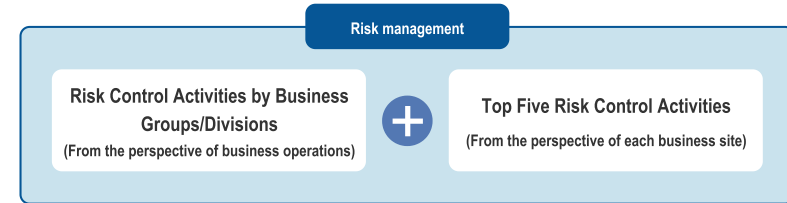
Risk Control Activities by Business Groups/Divisions and Top Five Risk Control Activities

As part of its risk management initiatives, Risk Control Activities by Business Groups/Divisions and Top Five Risk Control Activities are carried out at the Nippon Kayaku Group.

The former activities involve identifying risks that may exert a significant impact on our business activities from a business management viewpoint at each of the nine business groups and divisions, discussing and implementing countermeasures and conducting a review at the end of March every year.

The latter activities are conducted at plants and laboratories, pharmaceutical branches and sales offices, and Group companies worldwide. Each of the business sites identifies the five most critical risks that might affect their own business operations, discusses and implements measures against them and conducts reviews.

From these two perspectives, we exhaustively grasp and analyze risk trends, hold discussions at the Risk Management Committee and use the outcomes to make management decisions.



Initiatives

Information Security Initiatives

Using the code of conduct for information handling set forth in the Nippon Kayaku Group Charter of Conduct and Code of Conduct, we strive to protect corporate information as part of our daily operations and continuously pursue information security initiatives. We strengthen information security throughout the Company by controlling and monitoring information security across the board on an ongoing basis and devising programs to prevent data leaks and illegal data acquisition by third parties. Based on our Corporate Information Management Regulations, our companywide rule, corporate information managers appointed at each business site draft their own versions of regulations for their respective workplaces. In addition, we work to raise each and every employee's awareness about information security by organizing periodic information security training sessions for all employees and conducting annual information security self-checks.

In FY2021, as in the preceding fiscal year, we worked to clarify the communication and response procedures to be taken in the event of an information security incident, and to enlighten all our employees through training. There were no cases falling under specific complaints concerning customer privacy violation or the loss of customer data in FY2021.

Risk Management Training

The Nippon Kayaku Group implements the Plan, Do, Check and Act (PDCA) cycle continuously so that it can minimize and raise awareness of risks. As part of these efforts, we conduct risk management training for all employees. Also, a separate risk management training session is organized for new hires, newly appointed managers and Japanese expatriate employees being assigned overseas.

Risk Management System

We have established our Risk Management Regulations and BCP Manuals, among others, in preparation for risks that could have a serious impact on corporate activities in an effort to enhance our risk management system. The Risk Management Regulations were set forth in FY2022 by modifying the Risk Management Manual, which was formulated in FY2000 with the aim of appropriately managing and addressing all kinds of risks surrounding the Nippon Kayaku Group.

Business Continuity Plan (BCP)

Preparing BCP Manuals

Under its policy of restoring business within a predetermined target time, the Nippon Kayaku Group has launched a cross-organizational BCP project, whereby all of our domestic business divisions and plants have compiled BCP Manuals. In addition, the Group is preparing BCP Manuals at overseas business sites in order to respond to global risks.

BCP Training

Ongoing BCP training is critical for organizations to take prompt action in accordance with the BCP Manual. We annually hold BCP training, which is attended by all directors including the president. In FY2021, we conducted an action simulation training on business continuity at the Pharmaceuticals Group, on the presumption that an earthquake had struck North Kanto. Furthermore, we also implemented a simulation training at our Chinese plant, which involved taking immediate action in a fire and engaging in the ensuing restoration. We will be holding more BCP drills based on various scenarios.

Fire and Disaster Prevention Training



To be prepared for emergencies, all the business sites and Group companies of the Nippon Kayaku Group hold regular fire drills, disaster drills, BCP drills and emergency communication drills. In FY2021, some business sites carried out simplified group drills on paper in light of the COVID-19 pandemic.

Agrochemicals Business Reporting drill

Our Agrochemicals Business handles such substances as Kayaku Chloropicrin, Dojo Picrin and Chlopic Flow, which have chloropicrin as their active ingredient and are used for fumigating soil when cultivating vegetables to protect them from diseases and insect pests.

In November 2020, we conducted an emergency response dispatch and reporting drill based on the assumption that a truck loaded with Dojo Picrin had overturned on an expressway, resulting in its containers falling off and causing a spill of the substance. While liaising with our partner companies and business sites, the drill participants checked the accident site, sent faxes and arranged for emergency vehicles, and an emergency dispatch team loaded equipment onto the emergency vehicles. All involved engaged earnestly in the true-to-life simulation.



Reporting drill

Takasaki Plant Fire and disaster management activities

Since the Great Hanshin-Awaji Earthquake, increasing capacity to respond to large-scale earthquakes has become an important issue. Given this, the Fire Service Act was partially revised, and the Disaster Prevention Management System was newly established in accordance with the current Fire Prevention Management System. The size of the Takasaki Plant necessitates disaster prevention management, so in addition to the conventional firefighting drill held annually, the plant now holds a drill to prepare for a major earthquake. The plant thus holds a comprehensive fire prevention drill in the spring, and in the fall holds a comprehensive disaster prevention training session based on the scenario of a major earthquake with a seismic intensity of upper 6. All employees participate in both training sessions, in which they are divided into a main team and regional teams, engaging in training for evacuation/guidance, rescue/first aid, communications using satellite phones, liaison, and protection measures.

The Takasaki Plant is surrounded by rivers and forests, which also exposes it to the risk of wild fires. With this in mind, the plant's firefighting brigade conducts fire extinguishing drills, using its own fire truck, along with the drills above. All participants take the drills seriously. With the nearby fire chief visiting to assess and comment on the drill every year, the activities are truly beneficial to all involved. Furthermore, we offer fire drills using actual fire extinguishers as part of our safety education for new hires, and life-saving training using AEDs during Safety Week in October each year. Furthermore, following the Great East Japan Earthquake, we have systematically maintained stocks of emergency food (1,000 meals), drinking water and fuel (diesel and gasoline) in preparation for an emergency.



◆ Disaster drill at the Nippon Kayaku Group

/: Unrealized due to lease limitations

-: Not applicable

*: [Comprehensive disaster prevention training] Liaising with competent fire station; training for reporting, evacuation, firefighting, etc.

📶: In possession of IP wireless transceiver

Business site / Company name	Comprehensive disaster prevention training*	Early-stage firefighting training using extinguishers and hydrants; firefighting training	Reporting drill; evacuation drill; satellite phone drill	Earthquake/flood simulation training	First-aid training; AED training	Lectures or study sessions	Spillage response training; sandbag placement training
Head Office, Nippon Kayaku	●	●	● 📶	●	●	●	-
Fukuyama Plant	●	●	● 📶	●	●	●	●
Asa Plant	●	●	● 📶	●	●	●	●
Tokyo Plant	●	●	● 📶	●	●	●	●
Joetsu Plant	●	●	● 📶	●	●	●	●
Takasaki Plant	●	●	● 📶	●	●	●	●
Himeji Plant	●	●	● 📶	●	●	●	●
Kashima Plant	●	●	● 📶	●	●	●	●
Tokyo R&D Administration Office	●	●	● 📶	●	●	●	-
MOXTEK, INC.	×	●	●	×	×	●	-
WUXI POLATECHNO OPTICS	●	●	●	●	-	●	●
Dejima Optical Films	×	●	●	×	●	●	-
NIKKA FINE TECHNO	-	●	/	●	-	●	-
Nippon Kayaku Korea	-	/	●	/	/	●	-
NIPPON KAYAKU AMERICA	-	/	●	/	●	●	-
Euro Nippon Kayaku	-	-	●	-	-	×	-
KAYAKU CHEMICAL (WUXI)	●	●	●	×	●	●	×
KAYAKU Advanced Materials	●	●	●	-	●	●	●
WUXI ADVANCED KAYAKU CHEMICAL	●	●	●	●	●	●	●
Shanghai KAYAKU International Trading	-	●	●	-	-	●	-
NIPPON KAYAKU FOOD TECHNO	●	●	●	●	●	×	-
Tumor Diagnosis Support	-	/	●	/	/	×	-
Taiwan Nippon Kayaku	●	●	●	-	●	●	-
Kayaku Safety Systems Europe	●	●	●	-	●	●	●
Kayaku Safety Systems (Huzhou)	●	●	●	-	●	●	●
Kayaku Safety Systems de Mexico	●	●	●	-	●	●	●
Kayaku Safety Systems Malaysia	●	●	●	-	●	●	●
Nishiminato Driving School Corporation	/	●	●	×	×	×	-
Okiura Golf Center	-	●	●	×	●	×	-
Kayaku (Shanghai)	-	●	●	-	-	●	-
Japan Human Resources Medical Science Research Institute	●	●	●	●	●	●	-
Wako Toshi Kaihatsu	●	●	●	●	●	●	-
Kowa Sangyo	●	●	●	●	●	●	●
Gunnan Sangyo	●	●	●	●	●	●	●
Kayaku Japan (Head Office)	●	●	●	●	●	●	-
Kayaku Japan (Asa Plant)	●	●	●	●	●	●	●

Intellectual Property

Encouraging the Development of Intellectual Property

Nippon Kayaku develops and utilizes intellectual property to produce useful products, thereby building its businesses and contributing to society at the same time. To encourage our employees to produce intellectual property, we have established programs to compensate employee inventors and award them for their inventions.



1. Performance Compensation and Lump-sum Reward Programs for Employee Inventors

We provide “a reasonable amount of money or other economic benefits (reasonable benefits)” to employee inventors each time a patent application is made, as stipulated under Article 35, paragraph 4 of the Patent Act. In addition, when a patent for an invention made by a current or retired employee has contributed to sales, we provide performance compensation equivalent to a certain percentage of sales or royalties for each business year. This program was initiated in 1963, and has been implemented pursuant to our Regulations for Employee Inventions, etc., which have been revised every time the Patent Act was amended.



Employees whose patents have made a particular contribution to sales are eligible to receive a lump-sum reward in addition to performance compensation, which incentivizes the development of intellectual property.

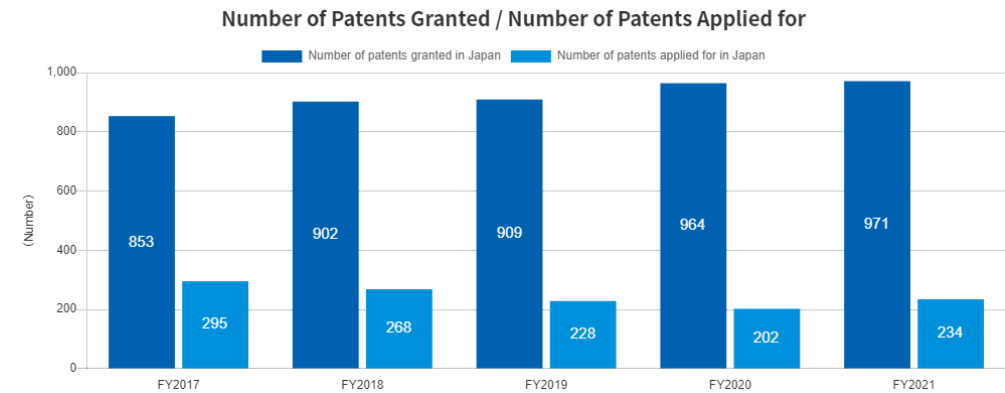
2. Early Contributions to Financial Performance

Even for patents pending, employees can receive compensation commensurate with the degree of contribution their invention has made to the financial performance of our Group. This particular program was initiated in 2005 to properly recognize inventions of products with a comparatively shorter life cycle, and serves to complement the aforementioned performance compensation program. Providing sales-based compensation for patents yet to be registered is a progressive system that operates in a forward-looking manner.

3. Award Ceremony for Inventors

At the Company-wide Research Presentation Conference held every year, a commendation ceremony is held for employee inventions that have been patented or are patent pending where distinguished inventors are presented with monetary prizes and awards. These awards include the R&D Director’s Award presented at the recommendation of each laboratory head, the Patent Application Award for inventors who have applied for a high number of patents, and the Best Invention Award granted in recognition of highly advanced technological innovations and patent specifications of an exceptional quality. Award recipients deliver presentations to help encourage inventions by other employees.

Number of Patents Granted / Number of Patents Applied for



Library

Data Summary	93
External Evaluations and Awards	103
Independent Third-party Assurance Report	105
Editorial Policy	106

Data Summary

Environmental Data

Social Data

Governance Data

Environmental Data

Greenhouse Gas Emissions (Scope 1 and 2) (non-consolidated)

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020 ^{*2}	FY 2021 ^{*2}
Energy-derived CO ₂ emissions	Non-consolidated	t-CO ₂ e	71,336	69,731	69,946	71,732	63,205
Non-energy derived CO ₂ emissions	Non-consolidated	t-CO ₂ e	2,017	2,202	2,409	2,301	2,617
N ₂ O	Non-consolidated	t-CO ₂ e	147	182	133	122	112
CH ₄	Non-consolidated	t-CO ₂ e	31	29	24	26	29
HFCs	Non-consolidated	t-CO ₂ e	1	5	0	12	3
Other fluorocarbons	Non-consolidated	t-CO ₂ e	181	756	405	34	336
PFCs	Non-consolidated	t-CO ₂ e	0	0	0	0	0
SF ₆	Non-consolidated	t-CO ₂ e	0	0	0	0	0
NF ₃	Non-consolidated	t-CO ₂ e	0	0	0	0	0
Total^{*1}	Non-consolidated	t-CO₂e	73,713	72,905	72,918	74,227	66,302

*1. Value for each item is rounded off, which often results in an inconsistency between the total value indicated and the aggregate of all the relevant items.

*2. Non-consolidated data for FY2020 onward include that for the Joetsu Plant.

Greenhouse Gas Emissions (Scope 1 and 2) (consolidated)

Indicator	Scope	Unit	FY 2017 ^{*3}	FY 2018 ^{*3}	FY 2019	FY 2020	FY 2021
Energy-derived CO ₂ emissions	Consolidated	t-CO ₂ e	-	-	127,660	114,891	108,500
Non-energy derived CO ₂ emissions	Consolidated	t-CO ₂ e	-	-	2,421	2,339	2,658
N ₂ O	Consolidated	t-CO ₂ e	-	-	133	122	112
CH ₄	Consolidated	t-CO ₂ e	-	-	24	26	29
HFCs	Consolidated	t-CO ₂ e	-	-	0	16	7
Other fluorocarbons	Consolidated	t-CO ₂ e	-	-	611	1,011	794
PFCs	Consolidated	t-CO ₂ e	-	-	0	0	0
SF ₆	Consolidated	t-CO ₂ e	-	-	0	0	0
NF ₃	Consolidated	t-CO ₂ e	-	-	0	0	0
Total^{*1}	Consolidated	t-CO₂e	-	-	130,850	118,405	112,100
Scope1	Consolidated	t-CO₂e	-	-	36,170	35,329	37,390
Scope2 (market based)	Consolidated	t-CO₂e	-	-	94,680	83,077	74,710
Emissions per sales unit^{*2}	Consolidated		-	-	0.76	0.68	0.65

*1. Value for each item is rounded off, which often results in an inconsistency between the total value indicated and the aggregate of all the relevant items.

*2. Emissions (t-CO₂e) / Consolidated sales (million yen)

*3. Data collection on a consolidated basis started in FY2019.

Scope3

Category	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Purchased goods and services	Consolidated	t-CO ₂ e	-	-	243,600	237,300	294,500
Capital goods	Consolidated	t-CO ₂ e	-	-	42,700	42,900	26,800
Fuel- and energy-related activities not included in scope 1 or scope 2	Consolidated	t-CO ₂ e	-	-	22,400	21,200	22,300
Transportation and distribution (upstream)	Consolidated	t-CO ₂ e	-	-	19,000	17,600	22,300
Waste generated in operations	Consolidated	t-CO ₂ e	-	-	26,500	28,800	31,800
Business travel	Consolidated	t-CO ₂ e	-	-	800	800	800
Employee commuting	Consolidated	t-CO ₂ e	-	-	2,500	2,400	2,400
Leased assets (upstream)	Consolidated	t-CO ₂ e	Included in scope 1 or scope 2				
Transportation and distribution (downstream)	Consolidated	t-CO ₂ e	-	-	1,000	1,000	1,600
Processing of sold products	Consolidated	t-CO ₂ e	-	-	-	-	-
Use of sold products	Consolidated	t-CO ₂ e	-	-	-	-	-
End-of-life treatment of sold products	Consolidated	t-CO ₂ e	-	-	15,400	23,200	26,400
Leased assets (downstream)	Consolidated	t-CO ₂ e	-	-	400	400	400
Franchises	Consolidated	t-CO ₂ e	N/A	N/A	N/A	N/A	N/A
Investments	Consolidated	t-CO ₂ e	N/A	N/A	N/A	N/A	N/A
Total[*]	Consolidated	t-CO₂e			374,300	375,600	429,300

* Value for each item is rounded off, which often results in an inconsistency between the total value indicated and the aggregate of all the relevant items.

Energy Usage (oil equivalent)

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Manufacturing, R&D, and administrative divisions	Non-consolidated	1,000 kL	33,152	33,669	34,939	38,700	40,325

Energy Usage

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Non-renewable fuels purchased and consumed (A) (nuclear power, coal, oil, natural gas, etc.)	Non-consolidated	MWh	138,353	136,585	138,083	155,201	165,494
Non-renewable electricity purchased (B)	Non-consolidated	MWh	80,057	80,049	78,491	95,819	98,505
Steam, heat, cooling and other non-renewable energy purchased (C)	Non-consolidated	MWh	3,067	3,055	3,070	3,452	3,433
Renewable energy purchased or generated (D) (wind, photovoltaic, biomass, hydroelectric, geothermal, etc.)	Non-consolidated	MWh	64	60	58	59	57
Non-renewable energy sold (E) (electricity, heating, cooling)	Non-consolidated	MWh	0	0	0	0	0
Total non-renewable energy consumed (A+B+C-E)	Non-consolidated	MWh	221,477	219,689	219,644	254,472	267,432

* Value for each item is rounded off, which often results in an inconsistency between the total value indicated and the aggregate of all the relevant items.

Industrial Waste

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Amount of industrial waste generated	Non-consolidated	tons	20,552	21,491	23,204	25,153	28,424
Amount of resources recovered	Non-consolidated	tons	16,380	17,493	19,584	20,449	23,290
Final disposal amount	Non-consolidated	tons	1,148	870	847	404	298
Recycling rate	Non-consolidated	%	79.7	81.4	84.4	81.3	82.3

Air Emissions

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Volatile organic compounds (VOCs)	Non-consolidated	tons	24.5	25.6	28.6	33.3	52.1
Dichloromethane	Non-consolidated	tons	3.9	3.9	4.9	4.0	3.6
Formaldehyde	Non-consolidated	tons	0.14	0.16	0.04	0.04	0.15
NOx	Non-consolidated	tons	9.2	8.2	9.1	7.5	7.7
SOx	Non-consolidated	tons	1.2	1.4	1.3	1.0	0.7
Dust	Non-consolidated	tons	0.5	0.6	0.9	0.5	0.5

Control of Wastewater

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
COD	Non-consolidated	tons	132.1	133.7	145.2	122.6	124.2
Total phosphorus emissions	Non-consolidated	tons	1.4	1.6	4.1	3.2	2.0
Total nitrogen emissions	Non-consolidated	tons	75.2	93.2	72.0	83.2	70.4
SS*	Non-consolidated	tons	50.0	45.3	46.0	48.2	31.9

* SS: Suspended solids. SS is a water quality indicator generally referring to insoluble substances of 2 mm or less in diameter suspended in water. Made up of organic and inorganic matter and originating from decayed animal and plant sources such as plankton and algae, sediment and silt, sewage, factory effluent, etc. The increase in SS worsens transparency, and influences underwater photosynthesis by preventing light penetration.

PRTR Substances

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Emissions of PRTR substances	Atmosphere	Non-consolidated tons	15.9	17.1	18.9	16.8	25.2
	Water bodies	Non-consolidated tons	11.5	11.4	13.3	9.1	14.7
	Soil	Non-consolidated tons	0	0	0	0	0
	Total*	Non-consolidated tons	27.4	28.5	32.2	25.9	39.9

* Value for each item is rounded off, which often results in an inconsistency between the total value indicated and the aggregate of all the relevant items.

Usage of Water Resources

Indicator		Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Water resource input	Municipal water (tap water)	Non-consolidated	1,000m ³	371	348	356	390	363
	Industrial water	Non-consolidated	1,000m ³	6,507	6,534	7,521	7,874	8,098
	Groundwater	Non-consolidated	1,000m ³	1,607	1,624	2,283	1,828	1,848
	Total^{*1}	Non-consolidated	1,000m³	8,486	8,505	10,160	10,092	10,309
	Water withdrawals in water stressed areas ^{*2}	Non-consolidated	1,000m ³	0	0	0	0	0
Amount of water discharged^{**3}	Non-consolidated	1,000m ³	9,596	9,585	10,577	9,919	10,011	
Amount of water recycled for use	Non-consolidated	1,000m ³	0	0	0	0	0	
Rate of water recycled	Non-consolidated	%	0	0	0	0	0	

- *1. Value for each item is rounded off, which often results in an inconsistency between the total value indicated and the aggregate of all the relevant items.
- *2. Assessments have identified that regions where our manufacturing facilities are located (Fukuyama in Hiroshima Prefecture, Asa in Yamaguchi Prefecture, Tokyo, Joetsu in Niigata Prefecture, Takasaki in Gunma Prefecture, Himeji in Hyogo Prefecture, Kashima in Ibaraki Prefecture) as not being subject to water stress.
- *3. Industrial water and groundwater used and discharged after being treated so as to recover quality equivalent to or exceeding the original level.

Environmental Accounting

Category	Scope	Unit	FY 2017		FY 2018		FY 2019		FY 2020		FY 2021			
			Amount invested	Expenses	Amount invested	Expenses	Amount invested	Expenses	Amount invested	Expenses	Amount invested	Expenses		
Inside business areas	Pollution prevention	Air pollution prevention	Non-consolidated	Million yen	98.4	116.2	85.9	98.3	40.2	83.9	20.9	97.0	37.1	124.2
		Water pollution prevention	Non-consolidated	Million yen	24.7	239.2	40.6	223.9	70.5	148.0	109.7	174.8	266.9	178.9
		Underground seepage prevention	Non-consolidated	Million yen	5.9	13.2	52.0	6.0	13.4	10.0	5.5	3.7	4.9	5.6
		Noise and vibration prevention	Non-consolidated	Million yen	0.0	0.2	4.3	6.1	2.4	1.8	17.2	6.2	6.0	0.0
		Other	Non-consolidated	Million yen	-	160.6	-	190.6	-	386.0	-	435.0	-	394.7
	Global environmental protection	Non-consolidated	Million yen	152.9	41.1	102.9	8.1	40.3	20.1	172.6	100.4	244.6	92.3	
	Resource recycling	Non-consolidated	Million yen	66.1	500.1	3.9	565.3	30.9	576.7	106.6	709.8	111.2	772.2	
Upstream / downstream	Containers and packaging recycling outsourcing	Non-consolidated	Million yen	-	0.4	-	1.0	-	1.0	-	0.4	-	0.3	
	Sewage processing	Non-consolidated	Million yen	-	81.7	-	90.9	-	90.3	-	78.7	-	75.2	
Management activity	System development and operation	Non-consolidated	Million yen	-	93.4	-	100.4	-	87.4	-	105.3	-	174.9	
	Environmental impact monitoring	Non-consolidated	Million yen	-	51.7	-	41.8	-	38.5	-	42.5	-	38.3	
	Information disclosure	Non-consolidated	Million yen	-	9.5	-	8.7	-	5.6	-	6.3	-	6.3	
	Education, training, and other	Non-consolidated	Million yen	-	88.9	-	88.6	-	80.1	-	59.4	-	59.3	
	Greening	Non-consolidated	Million yen	-	163.0	-	97.5	1.0	58.0	-	70.0	0.5	43.9	
R&D	Non-consolidated	Million yen	-	316.3	-	178.1	-	81.7	-	57.2	-	39.2		
Social activity	Non-consolidated	Million yen	-	9.0	-	8.7	-	9.7	-	8.9	-	9.0		
Environmental damage	Non-consolidated	Million yen	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0		
Total[*]	Non-consolidated	Million yen	348.0	1,884.6	289.6	1,712.0	198.7	1,678.9	432.5	1,955.5	671.3	2,014.5		

- * Value for each item is rounded off, which often results in an inconsistency between the total value indicated and the aggregate of all the relevant items.

Economic Effects from Environmental Protection Measures

Targets of evaluation of effects			Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
Inside business areas effects	Pollution control effect	Air pollution prevention	Non-consolidated	Million yen	0.0	0.0	0.0	0.0	0.0	
		Water pollution prevention	Non-consolidated	Million yen	0.0	0.0	0.0	0.0	3.5	
		Reduction of the amount of imposition on pollution load	Non-consolidated	Million yen	0.4	0.1	0.4	0.4	0.6	
		Noise and vibration prevention	Non-consolidated	Million yen	0.0	0.0	0.0	0.0	0.0	
	Global environment protection effect	Global warming prevention and energy conservation	Non-consolidated	Million yen	45.6	53.5	55.9	112.8	80.4	
		Waste and recycling	Waste reduction	Non-consolidated	Million yen	1.6	2.1	9.5	9.5	4.1
			Sale of recycled resources	Non-consolidated	Million yen	13.3	12.8	12.9	10.5	17.3
	Other	Other	Non-consolidated	Million yen	8.6	6.3	0.0	0.0	7.0	
	Upstream / downstream effects	Containers recycling	Non-consolidated	Million yen	0.0	69.6	62.6	73.6	54.2	
	Other	Other	Non-consolidated	Million yen	0.0	0.0	0.0	0.0	0.0	
Total*	Non-consolidated	Million yen	69.4	144.4	141.3	206.8	167.1			

* Value for each item is rounded off, which often results in an inconsistency between the total value indicated and the aggregate of all the relevant items.

Environment-related Capital Investments

Category	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Air pollution prevention equipment	Non-consolidated	Million yen	98.4	85.9	40.2	20.9	37.1
Water pollution prevention equipment	Non-consolidated	Million yen	24.7	40.6	70.5	109.7	266.9
Underground seepage prevention equipment	Non-consolidated	Million yen	5.9	52.0	13.4	5.5	4.9
Noise and vibration prevention equipment	Non-consolidated	Million yen	0.0	4.3	2.4	17.2	6.0
Industrial waste processing equipment	Non-consolidated	Million yen	66.1	3.9	30.9	106.6	111.2
Plant greening	Non-consolidated	Million yen	0.0	0.0	1.0	1.8	0.5
Energy conservation and global warming prevention	Non-consolidated	Million yen	152.9	102.9	40.3	172.6	244.6
Total*	Non-consolidated	Million yen	348.0	289.6	198.7	434.3	671.3

* Value for each item is rounded off, which often results in an inconsistency between the total value indicated and the aggregate of all the relevant items.

Safety- & Health-related Capital Investments

Category	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Equipment aging measures	Non-consolidated	Million yen	278.2	327.9	469.0	292.9	490.9
Safety and work environment measures	Non-consolidated	Million yen	168.5	164.8	165.3	171.4	171.4
Explosion, fire and leakage measures	Non-consolidated	Million yen	23.9	12.8	39.4	9.2	14.1
Earthquake and other natural disasters measures	Non-consolidated	Million yen	40.8	11.0	2.6	51.4	4.4
Other	Non-consolidated	Million yen	32.5	34.9	4.0	4.5	6.4
Total*	Non-consolidated	Million yen	543.9	551.4	680.3	529.4	687.1

* Value for each item is rounded off, which often results in an inconsistency between the total value indicated and the aggregate of all the relevant items.

ISO14001 Certification

Business site	Certification date	Certification body	Certification number
Fukuyama Plant	April 1999	JCQA	JCQA-E-0062
Asa Plant	September 1998	JCQA	JCQA-E-0987
Tokyo Plant	December 1998	JCQA	JCQA-E-0036
Joetsu Plant (including logistics center)	August 2002	SGS	JP15/071413
Takasaki Plant	January 2001	JCQA	JCQA-E-0101
Himeji Plant	March 1999	JIA-QA	JE0054H
Kashima Plant	March 1999	JCQA	JCQA-E-0046
KAYAKU CHEMICAL (WUXI)	August 2006	UCC	02421E32060755R0M
WUXI ADVANCED KAYAKU CHEMICAL	July 2007	CQC	0012E33375R4M/3200
WUXI POLATECHNO OPTICS	April 2006	UCC	02420E31011518R2M
Kayaku Safety Systems Europe	December 2002	BVCZ	250302-2017-AE-CZS-RvA
Kayaku Safety Systems (Huzhou)	June 2016	SNQA	42144
Coverage ratio*			63%

* Percentage of ISO 14001-certified manufacturing facilities owned by Nippon Kayaku and its consolidated subsidiaries.

* The coverage of ISO 14001-certified manufacturing facilities of Nippon Kayaku on a non-consolidated bases is 100%.

List of Business Sites with Quality Management System Certification

Business site	ISO9001	ISO13485	IATF16949
Fukuyama Plant	●		
Asa Plant	●		
Tokyo Plant	●		
Functional Chemicals Group (excluding Polatechno Division)	●		
Functional Chemicals R&D Laboratories	●		
Taiwan Nippon Kayaku Co., Ltd. (Functional Chemicals Business)	●		
Polatechno Division	●		
Joetsu Plant	●		
WUXI POLATECHNO OPTICS	●		
Takasaki Plant	●	●	
Pharmaceuticals Group	●	●	
Pharmaceutical Research Laboratories	●	●	
Himeji Plant			●
Safety Systems Group			●
Research & Development Division			●
Kashima Plant	●		
Agrochemicals Division	●		
Agrochemicals Laboratories	●		
NIPPONKAYAKU FOOD TECHNO	●		
MOXTEK	●		
Dejima Optical Films	●		
RaySpec	●		
KAYAKU Advanced Materials	●		
KAYAKU CHEMICAL (WUXI)	●		
WUXI ADVANCED KAYAKU CHEMICAL	●		
Kayaku Safety Systems Europe			●
Kayaku Safety Systems (Huzhou)			●
Kayaku Safety Systems de Mexico			●
Kayaku Safety Systems Malaysia			●

Environment-related Accidents / Violations of Environmental Laws and Regulations

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Number of serious environment-related accidents	Consolidated	Cases	0	0	0	0	0
Number of serious violations of environmental laws and regulations	Consolidated	Cases	0	0	0	0	0
Amount of fines and penalties for violations of environmental laws and regulations	Consolidated	Yen	0	0	0	0	0

Social Data

Employees*¹

Indicator	Category	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Full-time employees	Male	Non-consolidated	Persons	1,522	1,749	1,730	1,751	1,754
	Female	Non-consolidated	Persons	323	330	323	326	330
	Total	Non-consolidated	Persons	1,845	2,079	2,053	2,077	2,084
	Percentage of females	Non-consolidated	%	17.5	15.8	15.7	15.6	15.8
Full-time employees (by age group)	20s and under	Non-consolidated	Persons	375	422	402	394	376
	30s	Non-consolidated	Persons	481	569	580	579	575
	40s	Non-consolidated	Persons	519	576	582	576	585
	50s	Non-consolidated	Persons	467	505	497	523	547
	60s and over	Non-consolidated	Persons	3	7	8	5	1
Average age	Male	Non-consolidated	Age	40.4	40.0	39.7	39.8	40.2
	Female	Non-consolidated	Age	41.3	41.6	42.3	42.6	42.8
	Total	Non-consolidated	Age	40.6	40.2	41.0	40.3	40.6
Average length of service	Male	Non-consolidated	Years	14.9	14.4	14.1	14.2	14.5
	Female	Non-consolidated	Years	15.5	15.6	16.2	16.5	16.6
	Total	Non-consolidated	Years	15.0	14.6	15.2	14.6	14.9

Indicator	Category	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
Managers	Under general manager	Male	Non-consolidated	Persons	306	318	315	359	321
		Female	Non-consolidated	Persons	30	35	36	24	38
		Total	Non-consolidated	Persons	336	353	351	383	359
		Percentage of females	Non-consolidated	%	8.9	9.9	10.2	6.2	10.5
	General manager and above	Male	Non-consolidated	Persons	132	138	142	74	68
		Female	Non-consolidated	Persons	3	3	6	4	4
		Total	Non-consolidated	Persons	135	141	148	78	72
		Percentage of females	Non-consolidated	%	2.2	2.1	4.0	5.1	5.5
	Overall	Male	Non-consolidated	Persons	438	456	457	468	476
		Female	Non-consolidated	Persons	33	38	42	44	47
Total		Non-consolidated	Persons	471	494	499	512	523	
Percentage of females		Non-consolidated	%	7.0	7.7	8.4	8.6	9.0	
Number of temporary employees* ²		Non-consolidated	Persons	577	554	613	614	606	
Contract employees	Male	Non-consolidated	Persons	-	-	-	5	19	
	Female	Non-consolidated	Persons	-	-	-	14	28	
	Total	Non-consolidated	Persons	-	-	-	19	47	

*1. The data is as of March 31 of each year, unless otherwise described.

*2. Average number of people in each fiscal year

Employees (consolidated)

Indicator	Category	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Full-time employees	Total	Consolidated	Persons	5,684	5,814	5,769	5,664	5,703

Diversity

Indicator	Category	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
New employees (new graduates) ^{*1}	Male	Non-consolidated	Persons	34	59	60	49	41
	Female	Non-consolidated	Persons	5	5	4	8	7
	Total	Non-consolidated	Persons	39	64	64	57	48
	Percentage of females	Non-consolidated	%	12.8	7.8	6.2	14.0	14.5
New employees (mid-career hires) ^{*2}	Male	Non-consolidated	Persons	23	27	35	28	32
	Female	Non-consolidated	Persons	8	3	3	6	7
	Total	Non-consolidated	Persons	31	30	38	34	39
	Percentage of females	Non-consolidated	%	25.8	10.0	7.8	17.6	17.9
Percentage of employees with disabilities	Non-consolidated	%	2.08	1.82	1.97	1.90	1.99	
(Statutory minimum rate)		%	2.20	2.20	2.20	2.20	2.30	
Rehiring of retired employees	Non-consolidated	Persons	116	139	153	157	142	
Rehiring rate of retired employees	Non-consolidated	%	60.9	62.7	70.5	84.1	57.6	

*1. Number of employees who entered the company in April of the following fiscal year

*2. Number of employees who entered during each fiscal year from April to March

Human Resource Development

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Average training and development hours per full-time employee	Non-consolidated	Hours	-	-	-	41	13

Work-life Balance

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	
Total annual working hours per employee	Non-consolidated	Hours	1,833	1,919	1,911	1,885	1,911	
Average overtime per month (union members)	Non-consolidated	Hours	12.8	13.3	12.7	11.3	12.7	
Rate of annual paid leave days taken	Non-consolidated	%	59.2	61.1	60.1	65.8	59.8	
Employees who started maternity leave ^{*1}	Non-consolidated	Persons	5	8	13	13	11	
Employees who started parental leave ^{*1}	Male	Non-consolidated	Persons	1	3	5	11	9
	Female	Non-consolidated	Persons	5	8	13	13	11
Return to work rate after taking maternity/parental leave	Male	Non-consolidated	%	100	100	100	100	100
	Female	Non-consolidated	%	100	100	100	100	100
Retention rate of employees after taking maternity/parental leave	Male	Non-consolidated	%	100	100	100	100	100
	Female	Non-consolidated	%	100	100	100	100	100
Employees working shorter hours for childcare	Male	Non-consolidated	Persons	1	2	2	0	1
	Female	Non-consolidated	Persons	23	26	31	43	42
Days of nursing leave taken	Non-consolidated	Persons	0	1	1	0	0	
Average annual salary	Non-consolidated	Thousand yen	7,478	7,460	7,173	7,102	7,344	
Voluntary retirement	Non-consolidated	Persons	33	47	37	41	48	
Employee turnover rate	Non-consolidated	%	1.8	2.1	1.7	1.8	2.1	
Rate of employee turnover due to voluntary retirement	Non-consolidated	%	1.8	2.1	1.7	1.8	2.1	
Employee turnover within three years ^{*2}	Non-consolidated	Persons	7	6	5	7	7	
Rate of employee turnover within three years	Non-consolidated	%	4	4	3	4	4	
Transfers	Non-consolidated	Persons	0	0	2	1	2	

*1. Does not include those who are still on leave that started in the previous fiscal year.

*2. Number of employees leaving the company within their first three years, among new graduates hired in each fiscal year

Freedom of Association

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Union members* ¹	Non-consolidated* ³	Persons	1,753	1,762	1,871	1,753	1,695
Rate of union members* ²	Non-consolidated* ³	%	100	100	100	100	100

*1. Data as of March 31 of each fiscal year.

*2. Number of union members / number of eligible people (excluding those in managerial positions and specified by agreement)

*3. Includes some affiliates.

Occupational Health and Safety

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Percentage of sites with OHSAS (Occupational Health and Safety Assessment Series) 18001 certification	Non-consolidated	%	0	0	0	0	0
Serious accidents, including work-related deaths	Non-consolidated	Cases	1	0	0	0	0
Work-related fatalities	Full-time employees	Non-consolidated Persons	0	0	0	0	0
	Contract employee	Non-consolidated Persons	0	0	0	0	0
Occupational accident frequency rate* ¹	Full-time employees	Non-consolidated *2	1.75 (9Cases)	0.43 (2Cases)	0.40 (2Cases)	0.18 (1Cases)	0.19 (1Cases)
	Contract employee	Non-consolidated *2	0	4.47 (1Cases)	0	0	0
Occupational accident severity rate* ¹	Non-consolidated	*3	0.086	0.012	0.031	0	0
Violations of occupational health and safety-related regulations and codes	Non-consolidated	Cases	0	0	0	0	0

*1. Data for each year from April to March

*2. Total number of deaths and injuries caused by occupational accidents per one million actual hours worked

*3. Total number of working days lost per one million actual hours worked

Employee Health

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Percentage of employees receiving regular health checkups*	Non-consolidated	%	100	100	100	100	100
Percentage of employees receiving stress checks*	Non-consolidated	%	97.7	97.5	97.3	97.2	98.1

* Employees on temporary leave excluded

Research and Development

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
R&D expenses	Consolidated*	Billion yen	14	12.1	12.5	11.1	12.5
Ratio of R&D expenses to net sales	Consolidated*	%	8.8	7.2	7.3	6.3	7.2

* Equity method affiliates included.

Social Contribution Activities

Indicator	Scope	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Spending on social contribution activities	Non-consolidated	Million yen	159	179	254	146	154
Of which, total amount of donations	Non-consolidated	Million yen	129	144	222	114	123
Of which, other than the above	Non-consolidated	Million yen	30	34	31	32	31

Governance Data

Governance System *

Indicator	Scope		Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Directors	Inside directors	Male	Persons	7	7	7	7	6
		Female	Persons	0	0	0	0	0
		Total	Persons	7	7	7	7	6
	Outside (independent) directors	Male	Persons	2 (2)	2 (2)	2 (2)	3 (3)	3 (3)
		Female	Persons	0	0	0	0	0
		Total	Persons	2 (2)	2 (2)	2 (2)	3 (3)	3 (3)
Altogether	Persons	9 (2)	9 (2)	9 (2)	10 (3)	9 (3)		
Average tenure			Years	2.6	2.4	2.0	2.7	3.0
Percentage of independent outside directors (actual)			%	22	22	22	30	33
Percentage of female directors			%	0	0	0	0	0
Executive directors			Persons	7	7	7	7	6
Audit & supervisory board members	Inside audit & supervisory board members	Male	Persons	2	2	2	2	1
		Female	Persons	0	0	0	0	1
		Total	Persons	2	2	2	2	2
	Outside (independent) audit & supervisory board members	Male	Persons	3 (1)	3 (2)	3 (2)	3 (2)	3 (2)
		Female	Persons	0	0	0	0	0
		Total	Persons	3 (1)	3 (2)	3 (2)	3 (2)	3 (2)
Altogether	Persons	5 (1)	5 (2)	5 (2)	5 (2)	5 (2)		
Average tenure			Years	1.4	1.6	1.8	2.8	3.0
Percentage of independent outside audit & supervisory board members (actual)			%	20	40	20	40	40
Percentage of female audit & supervisory board members			%	0	0	0	0	20

* Data as of the closing of the general meeting of shareholders held in June of each fiscal year

Number of Board Meetings and Attendance *

Indicator	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Number of board of directors' meetings	Sessions	14	14	14	14	14
Average attendance of directors at board meetings	%	99.2	97.5	100	98.5	100
Average attendance of audit & supervisory board members at board of directors' meetings	%	92.9	100	95.6	97.1	100
Number of audit & supervisory board meetings	Sessions	12	12	12	12	12
Average attendance of audit & supervisory board meetings	%	97.1	100	94.8	96.7	100

* Data for each fiscal year from April to March

Officers' Remuneration *

Category		Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Directors (excluding outside directors)	Total remuneration	Million yen	454	443	443	449	410
	Number of officers	Persons	9	9	9	7	8
Audit & supervisory board members (excluding outside audit & supervisory board members)	Total remuneration	Million yen	44	44	44	44	45
	Number of officers	Persons	3	2	3	2	3
Outside officers	Total remuneration	Million yen	40	40	40	47	55
	Number of officers	Persons	5	6	5	6	6
Total	Million yen		538	527	527	540	510

* The above data for the number and remuneration of directors and audit & supervisory board members include that for those who resigned at the time of closing of the ordinary general meeting of shareholders. No outside officers receive officers' remuneration from Nippon Kayaku's subsidiaries.

Remuneration to Financial Auditors (consolidated)

Indicator	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Remuneration for audit certification	Million yen	92	96	102	89	80
Remuneration for other than the above	Million yen	0	0	1	0	0
Total	Million yen	92	96	103	89	80

Number of Whistleblowing Reports

Nature of reports	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Workplace harassment (power harassment, sexual harassment, etc.)	2	4	8	6	2
Violations of company rules and etiquette	1	3	2	0	0
Labor/management relations	0	2	1	1	1
Other	0	0	0	0	1
Total	3	9	11	7	4

Political Contributions

Indicator	Unit	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Political contributions	Thousand yen	115	115	118	113	104

Categories of Shares Issued (as of March 31, 2022)

Category	Number of shares	Number of voting rights	Notes
Non-voting shares	-	-	-
Shares with restricted voting rights (treasury shares, etc.)	-	-	-
Shares with restricted voting rights (other)	-	-	-
Voting shares (treasury shares, etc.)	Ordinary shares: 2,252,000 (treasury shares)	-	-
	Ordinary shares: 28,000 (cross-held shares)	-	-
Voting shares (other)	Ordinary shares: 168,051,100	1,680,511	-
Shares less than one unit*	Ordinary shares: 172,470	-	-
Total number of shares issued	170,503,570	-	-
Total number of voting rights	-	1,680,511	-

* Shares less than one unit include 70 treasury shares held by Nippon Kayaku.

External Evaluations and Awards

Inclusion in ESG Indexes

FTSE Blossom Japan Sector Relative Index



FTSE Blossom Japan Sector Relative Index, created by FTSE Russell, reflects the performance of Japanese companies that demonstrate strong Environmental, Social and Governance (ESG) practices relative to their respective sectors and is designed to be sector neutral. It is one of the benchmark stock indices for ESG investments adopted by the Government Pension Investment Fund (GPIF) of Japan. (March 2022)

> [FTSE Blossom Japan Index](#)

FTSE Blossom Japan Sector Relative Index

FTSE Russell (the trading name of FTSE International Limited and Frank Russell Company) confirms that Nippon Kayaku Co., Ltd. has been independently assessed according to the FTSE Blossom Japan Sector Relative Index criteria, and has satisfied the requirements to become a constituent of the FTSE Blossom Japan Sector Relative Index. Created by the global index provider FTSE Russell, the FTSE Blossom Japan Sector Relative Index is designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices. FTSE Blossom Japan Sector Relative Index indices are used by a wide variety of market participants to create and assess responsible investment funds and other products.

MSCI Japan ESG Select Leaders Index

2022 CONSTITUENT MSCI JAPAN ESG SELECT LEADERS INDEX

MSCI Japan ESG Select Leaders Index is created by selecting Japanese companies with high Environmental, Social and Governance (ESG) performance, using MSCI Japan IMI Top 700 as its parent index. It is one of the benchmark stock indices for ESG investments adopted by the Government Pension Investment Fund (GPIF) of Japan. (December 2021)

> [MSCI ESG Select Leaders Index](#)

The inclusion of Nippon Kayaku Co., Ltd. in any MSCI indices and the use of MSCI logos, trademarks, service marks or index names herein, do not constitute a sponsorship, endorsement or promotion of Nippon Kayaku Co., Ltd. by MSCI Inc. or any of its affiliates. The MSCI indices are the exclusive property of MSCI. MSCI and MSCI index names and logos are trademarks or service marks of MSCI or its affiliates.

MSCI Japan Empowering Women Index (WIN)

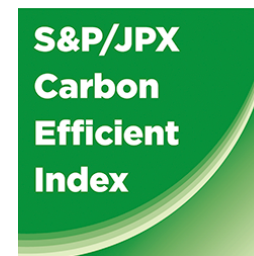
2022 CONSTITUENT MSCI JAPAN EMPOWERING WOMEN INDEX (WIN)

MSCI Japan Empowering Women Index (WIN) is created by selecting Japanese companies that demonstrate strong practices for empowering women, using MSCI Japan IMI Top 700 as its parent index. It is one of the benchmark stock indices for ESG investments adopted by the Government Pension Investment Fund (GPIF) of Japan. (December 2021)

> [MSCI Japan Empowering Women Index \(WIN\)](#)

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S&P/JPX Carbon Efficient Index



S&P/JPX Carbon Efficient Index is an environmental stock index developed jointly by S&P Dow Jones Indices and Japan Exchange Group. This index targets TOPIX constituent companies that have a high carbon efficiency (carbon emissions per unit of sales) and disclose environmental information, factors for increasing the investment weight of companies. It is one of the benchmark stock indices for ESG investments adopted by the Government Pension Investment Fund (GPIF) of Japan. (March 2022)

> [S&P/JPX Carbon Efficient Index](#)

Certification

Fukuyama Plant Obtained Silver Certification in RBA Audit

The Responsible Business Alliance (RBA) is an industrial coalition dedicated to corporate social responsibility in global supply chains. The RBA Code of Conduct sets out standards for proper supply chain operations, specifically occupational safety, workers treated with dignity and respect, and environmentally friendly business activities.

In January 2022, the Fukuyama Plant underwent a third-party RBA audit (VAP audit), and received a Silver certification, in acknowledgement of proper management for all the audit criteria: labor; health & safety; environment; ethics; and management systems.

Also, to address identified issues, the plant has created improvement plans to implement correction measures.

Recognition and Awards

CDP



CDP is an international NGO that runs a global disclosure system, in which companies and cities are encouraged to report on their environmental impacts and actions related to climate change, water resource protection, and forest conservation, and relevant surveys and evaluations are conducted.

In FY2021, the Nippon Kayaku Group was rated “B” for the Climate Change Report and “C” for the Water Security Report.

EcoVadis

EcoVadis SAS (headquartered in France) hosts an ESG rating platform that assesses more than 85,000 companies and organizations from 160 countries and across 200 sectors. The entity provides comprehensive third-party evaluation in four areas concerning the environment, labor and human rights, ethics, and sustainable procurement.

In April 2022, the Nippon Kayaku Group was awarded the Bronze Medal by EcoVadis in recognition of its performance of sustainability initiatives.

Independent Third-party Assurance Report



Sustainability Accounting Co., Ltd.

Independent Assurance Statement

September 15, 2022

Mr. Atsuhiko Wakumoto
President
Nippon Kayaku Co., Ltd.

1. Purpose

We, Sustainability Accounting Co., Ltd., have been engaged by Nippon Kayaku Co., Ltd., (“the Company”) to provide limited assurance on the Greenhouse Gas (GHG) emissions during the fiscal year 2021, that were 37.4 thousand t-CO₂ for Scope1, 74.7 thousand t-CO₂ for Scope2 (market-based) and 429 thousand t-CO_{2e} for Scope3 (categories 1, 2, 3, 4, 5, 6, 7, 9, 12, 13). The purpose of this process is to express our conclusion on whether the GHG emissions were calculated in accordance with the Company’s standards. The Company’s management is responsible for calculating the GHG emissions. Our responsibility is to independently carry out a limited assurance engagement and to express our assurance conclusion.

2. Procedures Performed

We conducted our assurance engagement in accordance with International Standard on Assurance Engagement 3000 (ISAE 3000) and International Standard on Assurance Engagement 3410 (ISAE 3410). The key procedures we carried out included:

- Interviewing the Company’s responsible personnel to understand the Company’s standards
- Reviewing the Company’s standards
- Performing cross-checks on a sample basis and performing a recalculation to determine whether the GHG emissions were calculated in accordance with the Company’s standards.

3. Conclusion

Based on the procedures performed, nothing has come to our attention that causes us to believe that GHG emissions have not been calculated in all material respects in accordance with the Company’s standards.

We have no conflict of interest relationships with the Company.

Takashi Fukushima
Representative Director
Sustainability Accounting Co., Ltd.

Editorial Policy

The Sustainability site provides reports on the Nippon Kayaku Group's environmental, social and governance initiatives and achievements toward achieving a sustainable society, aiming to help our stakeholders gain a better understanding of the Group's activities.

The Nippon Kayaku Group's basic sustainable management policy is to "under its corporate vision, the **KAYAKU spirit**, the Nippon Kayaku Group will practice sustainable management that responds to the trust placed in it by all of its stakeholders, by ensuring transparency and fairness in management and contributing to the creation of a sustainable environment and society through its business activities."

The information contained herein is organized in line with the key sustainability issues ("Materiality") formulated in FY2022. Topics have been chosen in view of both their importance to society with reference to various guidelines (GRI standards, ISO 26000, etc.) and their importance to the Nippon Kayaku Group.

*Note: The information in this report includes not only past and current data but also future plans and expectations as of the time of the report's issuance. These include assumptions and judgements based on information available at the time of writing the report. Future activities and performance may differ from the descriptions presented in this report.

Reporting Period

FY2021 (April 1, 2021 through March 31, 2022)

Some of the environmental data for overseas group companies is for the period from January 1, 2021 through December 31, 2021. Also, some information is related to periods outside that specified above.

Scope of Reporting

Nippon Kayaku Co., Ltd., and its domestic and overseas group companies

Some of the information on the environment and employees is indicated only on a non-consolidated basis.

Release Date

July 29, 2022

Reporting Cycle

Annual (last release: June 2021; next release: July 2023 [plan])

Reference Guidelines

GRI Standards

Sustainability Accounting Standards Board (SASB) Standards

ISO26000

Environmental Accounting Guidelines 2005, Ministry of the Environment, Japan

External Certification

In order to improve the credibility of its environmental performance data for greenhouse gas emissions (Scope 1, 2, and 3), the Nippon Kayaku Group entrusts third-party verification of the data to Sustainability Accounting Co., Ltd. and discloses the verification results. This started from FY2021.

For details, please refer to [Independent Third-party Assurance Report](#).

Inquiries

Office Hours

9:00 - 17:30 (JST) on weekdays (excluding the company's special holidays)

Contact

Sustainability Promotion Department

Corporate Planning Division

Strategic Corporate Planning Group

Tel: +81-3-6731-5227

Nippon Kayaku Co., Ltd.

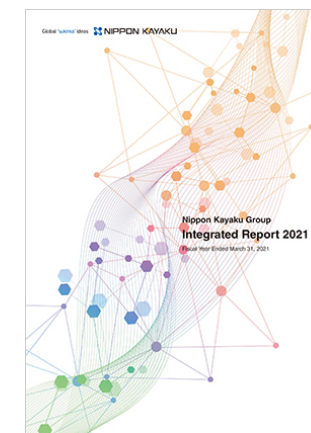
1-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-0005, Japan

[Inquiry form](#)

Related Information

For other stakeholder communication tools, we publish the integrated report.

The Integrated Report 2022 (for fiscal year ending March 2022) is scheduled to be issued in the fall of 2022.



[> Integrated reports](#)

Global "sukima" ideas



Nippon Kayaku Co., Ltd.

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[Inquiry form](#)