Environmental Management

The Declaration on Environment, Health and Safety, and Quality

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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 CO_2 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

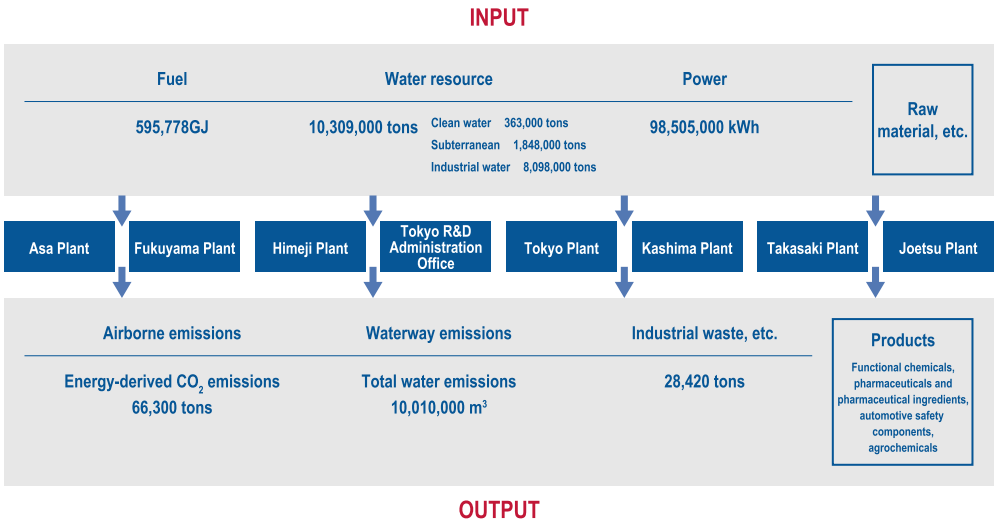
The Nippon Kayaku Group newly established the environmental targets of the new medium-term business plan in FY2021, and has commenced environmental protection activities under this new plan.
The Business Plan is already in effect, providing medium-term environmental targets to be achieved by FY2030, 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 (TFCD). 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*3emissions	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*5emissions	(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.