Sustainability Management

Responsible Care (RC) Management

Basic policies for RC

Mindful of its responsibilities as an enterprise engaged in the chemical business, the Group is promoting Responsible Care (RC) activities under the Basic Policies for RC in order to ensure safety (occupational health and safety, security and disaster prevention, product safety, and physical distribution safety) and to continue efforts to protect the environment.

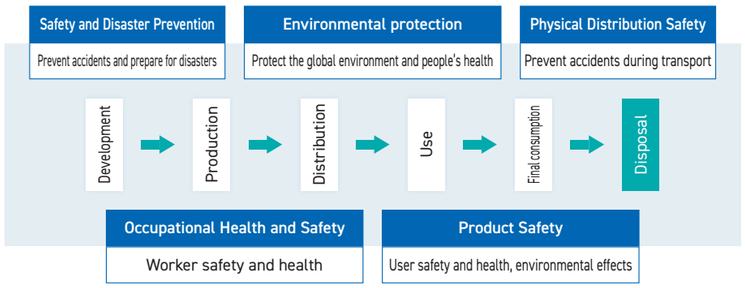
In accordance with the corporate philosophy and based on our policy of contributing to society by offering useful chemical products, our priority is to ensure safety of workers and people in society at large throughout our business activities. Our aim is to reduce environmental impacts of all our processes from procurement of raw materials to final disposal of products after use.

Toagosei Group and Responsible Care

Responsible Care (RC) activities are voluntary initiatives of companies handling chemical substances to ensure environmental protection and health and safety throughout product life cycles. Companies disclose the results of their activities and thus communicate with society.

Toagosei has been a member of the Japan Responsible Care Council (JRCC) since its establishment by the Japan Chemical Industry Association (JCIA) in 1995 and is promoting RC activities throughout the Group.

Toagosei endorsed the Responsible Care Global Charter established by the International Council of Chemical Associations (ICCA) in 2009 and revised in 2014. The president is a signatory of this charter and Toagosei is committed to the vigorous promotion of RC activities.



Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

Environmental Protection

Item	P	D	C	A
	Targets for 2024	Results in 2024	Achievement	Targets for 2025
Global Warming Mitigation	Medium- to Long-Term Targets for CO_2 Emission Reduction (Scope 1+2) ● 2030 Reduction by 50% (from 2013) ● 2050 Carbon Neutrality	CO_2 emissions: 319 kt (26% reduction from 2013)	★★	Medium- to Long-Term Targets for CO_2 Emission Reduction (Scope 1+2) ● 2030 Reduction by 50% (from 2013) ● 2050 Carbon Neutrality ● Improve energy consumption per unit by 1% or more (compared to the previous fiscal year)
	Strengthen management by implementing management system for chlorofluorocarbons	● Leakage volume for FY2023 was CO_2 equivalent 1,394 tons reported to government in FY2024 ● Expanded the use of the management system for chlorofluorocarbons	★	● Strengthen management through the use of the management system for chlorofluorocarbons
Initiatives to Realize a Recycling Society	● Final landfill disposal rate: 0.5% or less	● Final landfill disposal rate: 0.9% (including waste from building demolition, without which the final landfill disposal rate was 0.1% under normal operations.)	★	● Final landfill disposal rate: 0.5% or less
	● Continue sorting of waste and appropriate disposal	● Continued sorting of waste and appropriate disposal	★★★	● Continue sorting of waste and appropriate disposal
	● Promotion of recycling and waste volume reduction	● Switching to a value recovery service provider	★★★	● Recycling rate: Improve by 1% or more compared to the previous fiscal year
Environmental Impact Reduction Initiatives	● Emissions of substances subject to PRTR: 41 tons or less	● PRTR emissions: 88 tons	★	● Establish reduction plans for each substance subject to PRTR
	● Zero serious environmental accidents	● Serious environmental accidents: three cases	★	● Zero serious environmental accidents ● Prevent pollution of rivers and oceans by microplastics

Global warming mitigation initiatives

We have set medium- to long-term targets for the reduction of CO_2 emissions from production activities (Scope 1+2) in the two steps of the PDCA chart above. We have formulated an energy conservation roadmap to achieve these targets at each business site and are steadily introducing equipment and technologies.

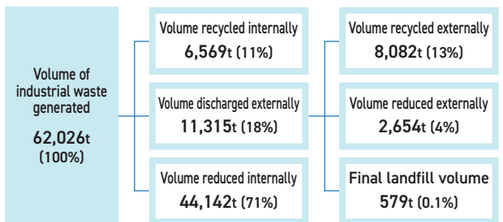
The sources of CO_2 emissions will be identified thoroughly to accurately calculate the amount of GHG emissions. We also promote the optimal use of energy by introducing renewable energy in-house and in partnership with local communities.

Initiatives to realize a recycling society

We worked to reduce industrial waste toward a target for the final landfill disposal rate of 0.5% or less, but we failed to achieve the target as the final landfill disposal rate was 0.9% due to surplus soil during construction following the removal of buildings in 2024. The final landfill rate due to normal production activities was 0.1%.

We will be addressing this by re-examining waste treatment processes and revising methods for setting future targets.

◆ Industrial waste processing flow



Chemical substance emissions reduction

Each business site conducts appropriate notifications in compliance with the "Law concerning Pollutant Release and Transfer Register (PRTR Law)." As a result of identifying the additional target substances in 2023, we confirmed the emission of sodium chlorate into water resources and submitted an additional notification. Looking ahead, we will make efforts to reduce the emission of sodium chlorate together with existing substances. We will set a target for each substance and work to achieve zero emissions of all chemical substances including the 26 substances voluntarily controlled under the Japan Chemical Industry Association, and not just PRTR target substances.

◆ Emissions of principal substances subject to PRTR (t)

Major emissions	2023	2024
Sodium chlorate	45	46
Chloromethane (methyl chloride)	32	31
Methyl acrylate	5.0	4.7
Chloroethylene (vinyl chloride)	3.0	3.1
Toluene	1.2	1.2

Environmental accounting

The Toagosei Group introduced environmental accounting in 2000 to ascertain costs related to environmental activities and their benefits and to utilize the data as a basis for decision-making for the purpose of engaging in more efficient environmental protection activities.

Scope of calculations: Companies and offices listed in the chart below (Business Activities and Environmental Impacts section)
Period covered: January 1 to December 31, 2024
Calculation method:
1. Calculated using our Calculation Rules prepared with reference to the Environmental Accounting Guidelines (2005 version) of the Ministry of the Environment of Japan.
2. Compound costs that include expenditures for purposes other than environmental conservation are prorated in proportion to their impact on the environment then counted as environmental costs.
3. Investment amounts are treated as actual capital investments, and expense amounts are treated as actual facility maintenance and management costs, personnel and other costs.
4. Items for which effects could be clearly calculated were calculated in monetary and quantitative units. However, effects that are difficult to quantify, such as risk aversion and deemed effects, are not included.

Environmental investments and expenses by cost category

Types of environmental conservation costs (Content of major initiatives)		Investment (Millions of yen)	Expenses (Millions of yen)
1. Cost within business area		3,480	7,622
Breakdown	1 Pollution prevention costs (costs to prevent atmospheric and water pollution)	2,858	6,054
Breakdown	2 Global environmental protection costs (costs to prevent global warming, promote energy-saving, prevent destruction of the ozone layer)	341	1,118
Breakdown	3 Material recycling costs (costs to use resources efficiently and for disposal and treatment of industrial waste)	281	451
2. Upstream/downstream costs (costs incurred in downstream/upstream from manufacturing and service activities: green procurement, etc.)		40	34
3. Management activity costs (costs to maintain and operate environmental management system, monitor and measure environmental impact, and offer environmental education)		69	490
4. R&D expenses (costs to research and develop products and other items that contribute to environmental protection and reduce environmental impact during manufacturing)		554	1,049
5. Social activity costs (costs of nature conservation and environmental improvements such as greenification, donations to and support for environmental protection organizations, and activities related to local residents)		166	42
6. Environmental damage costs (costs to recover nature and for compensations related to environmental conservation)		0	12
7. Other costs related to environmental conservation		52	136
Total		4,361	9,386

Business activities and environmental impacts

Scope				Calculation period
Toagosei Group	Toagosei	Plants	Nagoya Plant, Yokohama Plant, Takaoka Plant, Tokushima Plant, Sakaide Plant, Oita Plant, Kawasaki Plant, Hirono Plant	One year from January 1 to December 31, 2024
		Research centers	Nagoya Criatio R&D Center, Institute for Advanced Sciences (Ibaraki Prefecture), Kawasaki Frontience R&D Center	
	Group companies	Aronkasei	Kanto Plant (Ibaraki Prefecture), Nagoya Plant, Monozukuri Center (Aichi Prefecture), Shiga Plant, Onomichi Plant	

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		2023	2024
Energy Consumption	Energy Consumption (crude oil equivalent, thousand kl)	179	177

		2023	2024
Water consumption	Water resources (million m³)	51	54

Toagosei Group Production Sites in Japan

OUTPUT ▶▶▶

		2023	2024
Business Activities	Production volume (thousand tons)	1,090	1,102

		2023	2024
Industrial Waste	Volume of industrial waste generated (tons)	59,000	62,026
	Volume reduced internally (tons)	43,329	44,142
	Volume discharged externally (tons)	9,178	11,315
	Final landfill volume (tons)	349	579
	Final landfill rate (%)	0.59	0.9

		2023	2024
Environmental Impacts on Water Resources	Total effluent volume (million m³)	39	41
	COD (tons)	68	68
	Total nitrogen (tons)	22	24
	Total phosphorus (tons)	1.9	2.0
	Substances subject to PRTR (tons)	47	47

		2023	2024
Environmental Impacts on Atmosphere	CO_2 (CO_2 equivalent, thousand tons)	330	340
	SOx (tons)	46	42
	NOx (tons)	61	73
	Soot and dust (tons)	4	7
	Substances subject to PRTR (tons)	44	41

Safety and disaster prevention initiatives

Item	P	D	C	A
	Targets for 2024	Results in 2024	Achievement	Targets for 2025
Safety and Disaster Prevention	● Zero explosion or fire accidents	● Zero explosion or fire accidents	★★★	● Zero explosion or fire accidents
	● Zero serious leakage accidents of harmful substances or hazardous materials ● Review work standards so that anybody can work properly	● Three serious leakage accidents of harmful substances or hazardous materials ● Reviewed the work standards to ensure "Know-Why" understanding	★	● Zero serious leakage accidents of harmful substances or hazardous materials

Disaster prevention meetings

Before manufacturing a new product or changing production methods or facilities, Toagosei holds disaster prevention meetings. At these meetings, the details of plans are discussed from the perspectives of process safety and disaster prevention, occupational health and safety, environmental protection, product safety, and quality assurance, and any issues are addressed.

Disaster prevention meetings are classified into a three-tier hierarchy according to the size and agenda of the meeting: formal disaster prevention meetings, simplified disaster prevention meetings, and disaster prevention manager meetings. These meetings also serve as venues for confirming and recording details to be examined in "Risk assessments."

Disaster drills

Each business site regularly conducts disaster drills in cooperation with fire departments and other agencies to ensure readiness in the case of an emergency. In recent years, we have also adopted tablet terminals and helmet cameras to communicate on-site circumstances to the task force in real time.

Amid the increase in severe disasters due to global warming, we are devising ways to respond to unexpected situations by adapting drills to each office's circumstances, such as assuming light staffing due to a holiday, or situations for which no scenario has been determined in advance.

Occupational health and safety

Item	P	D	C	A
	Targets for 2024	Results in 2024	Achievement	Targets for 2025
Occupational Health and Safety	● Zero lost-time injuries ● Zero no-lost-time injuries ● Sharing of safety rules with partner companies ● Strengthen safety organizational capabilities with communication	● Lost-time injuries: 5	★	● Zero lost-time injuries ● Prevent injuries at partner business sites ● Prevent heat-stroke injuries
		● No-lost-time injuries: 3	★	
		● Implementation by devising methods at each workplace	★★★	

Occupational health and safety management system

Priorities for occupational health and safety (OHS) promotion and key policies and measures are determined at the Group's Sustainability Committee meetings, and we engage in health and safety activities accordingly. Each business site is raising the level of health and safety by fusing top-down initiatives and bottom-up initiatives from workplaces.

Occupational accidents

In 2024, 5 lost-time injuries and 3 no-lost-time injuries occurred in total throughout the Group and partner business sites, and we could not achieve the target of zero injuries. Injuries at partner business sites related to construction, transportation and other sectors in particular accounted for the majority of lost-time injuries, so in 2025 we will strengthen our efforts to prevent injuries at partner business sites.

Number of occupational accidents

(Cases)	Toagosei Group		Partner business sites, others		Total	
Year	Lost-time injuries	No-lost-time injuries	Lost-time injuries	No-lost-time injuries	Lost-time injuries	No-lost-time injuries
2019	2 (1)	12	4	4	6 (1)	16
2020	4	6	2	2	6	8
2021	1 (1)	8	0	2	1 (1)	10
2022	4 (1)	7	2	1	6 (1)	8
2023	0 (1)	6	5	4	5 (1)	10
2024	1 (1)	2	4	1	5	3

(Figures in parentheses indicate the number of accidents at overseas business sites.)

Product safety

Item	P	D	C	A
	Targets for 2024	Results in 2024	Achievement	Targets for 2025
Product Safety	● Response to domestic and overseas laws and regulations	● Response to domestic and overseas chemicals-related laws and regulations	★★★	● Response to domestic and overseas chemicals-related laws and regulations
	● Appropriate response to requests for submission of SDS and various survey forms	● Response to requests for submission of SDS and various survey forms	★★★	● Appropriate response to requests for submission of SDS and various survey forms throughout the supply chain

Chemicals safety management system

At our Group, our first task at the product development stage is to conduct a safety examination. We also perform necessary safety tests when making notifications required by laws and regulations when a product falls under the category of a new chemical substance. We also make necessary responses to new substances in the inventory of each country. At disaster prevention meetings held before test production or scaling up of production, we discuss the safety of materials handled and products, as well as disaster prevention during manufacturing. We check chronic effects as well as acute health hazards, such as the danger of chemical injury, through chemical substance risk assessments and also deliberate on compliance with legal and regulatory requirements, environmental impacts, and other matters.

Provision of safety information

We provide chemical product safety information using safety data sheets (SDS), product labels, yellow cards, and other means.

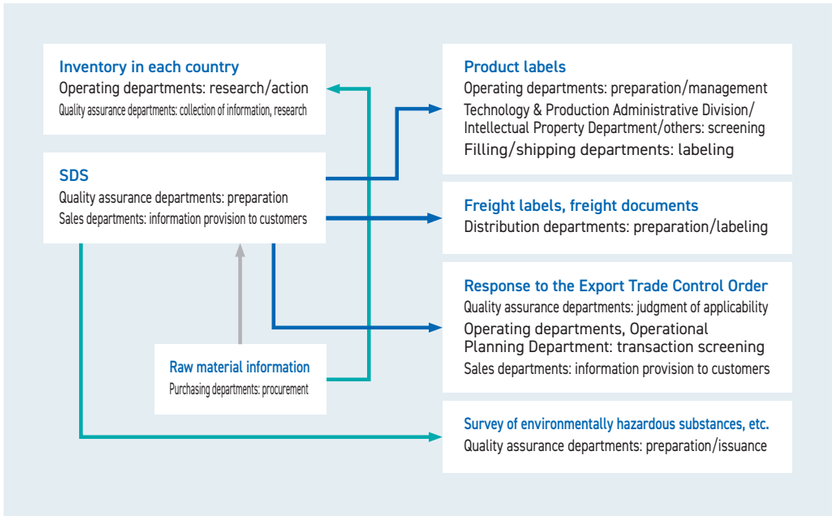
SDS are documents prepared for communicating detailed information related to chemical product handling methods and safety. We issue SDS to customers, sales agents, transportation companies, and other companies that handle the Group's products. SDS for some products can be downloaded from the corporate website.

The number of target substances for chemical substance risk assessments increased following the amended system for voluntary control of chemical substances, so we are taking the appropriate action such as organizing SDS and other means. The mandatory provision of SDS and product labels in national languages in accordance with Globally Harmonized System of Classification and Labeling of Chemicals (GHS)* has spread in various countries around the world including Japan.

We are creating and updating SDS and product labels as needed in response to such trend.

Many departments are involved to manage product information and appropriately communicate it to the supply chain. Members of the Technology & Production Administrative Division and the Group Supply Chain Management Division are engaged in information gathering, internal education, response to consultation and other tasks to support implementing departments.

*GHS: Globally Harmonized System



Quality assurance

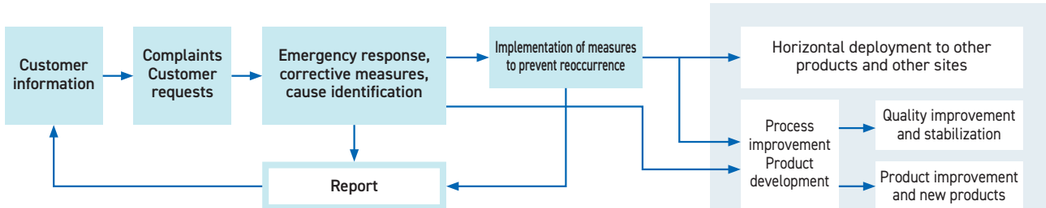
Item	P	D	C	A
	Targets for 2024	Results in 2024	Achievement	Targets for 2025
Quality Assurance	● Strengthening of quality risk evaluations ● Formulation and implementation of effective measures to prevent accidents and outflow ● Promotion of operational improvements by increasing lineup and quality	● Revision of relevant standards, promotion of risk assessment	★★★	● Appropriately address customer requirements through the improvement of quality management and quality assurance levels
		● Promotion of reflection of measures in standards	★★★	

Quality assurance system

Based on its quality policy to "enhance quality management and offer products and services that satisfy our customers," the Group is working to achieve ongoing improvement of the management system. In addition, we promote various activities by setting quality objectives such as improving the level of raw material management, strengthening manufacturing process control, improving the quality of analytical work, and utilizing the in-house Quality Assurance Liaison Committee.

Initiatives in response to the voice of the customer

We are striving to appropriately and quickly respond to complaints and submit delivery specifications and various documents. Quality assurance departments of our plants are responding to opinions of customers from their perspectives. As a result, submission of various documents to customers has become expedited year by year. Considering customer complaints and requests as opportunities for product improvements, process improvement, work improvement, and facilities upgrades, we enhance the level of quality management from a broad perspective.



Safety management during product transport

Item	P	D	C	A
	Targets for 2024	Results in 2024	Achievement	Targets for 2025
Physical Distribution Safety	● Reduction in the number of physical distribution problems	● The target for logistics complaints was achieved, but the target for problems was not.	★★	● Reduction in the number of physical distribution problems

Safe transport and delivery promotion structure

Each business site organizes conferences with carriers to promote safe transport and safe delivery. The business sites set annual targets at the conferences and confirm the progress and whether rules for carrying out safe operations are being observed through meetings and safety patrols. In the case of new clients, the business sites confirm clients' receiving facilities in advance to establish the system for safe delivery. If a carrier requests improvement of a client's receiving facility, we ask the client to make those improvements.

Horizontal deployment of problem information

The logistics departments undertake sharing and horizontal deployment of information at all plants by registering problems in shipping and transport in a database. Each business site regularly holds meetings with carriers to share risk information such as examples of actual accidents and close calls in order to raise awareness for the elimination of serious troubles.

PICK UP

Begin operation of the Nagoya Logistics Center

The construction of the Nagoya Logistics Center, utilizing idle land at our Nagoya Plant, was completed in September 2024. The Center achieves joint logistics, with rental warehouse facilities that can be operated as commercial warehouses in addition to our own warehouse.

Nagoya Logistics Center

- Internal operation through third-party logistics (3PL)
- Monetization through leasing
- Rationalization of storage and transportation