



Data Sheet 2020

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Environment

Basic Policy

In keeping with our ESG Charter, we at the Kaneka Group will contribute to realizing sustainable development and the enrichment of society by conserving resources and reducing environmental impacts at each stage of the entire product lifecycle.

Important matters pertaining to the protection of the global environment are decided by the Earth Environment Subcommittee and decided by the ESG Committee. Meanwhile, issues on global environment protection are shared and further discussed at the management meeting, the Plant Management Committee, and other meetings. The mid-term management plan also focuses on strengthening initiatives on important matters to further improve our ESG management.

Environmental Management

By providing solutions that contribute to the global environment and a rich life and working to reduce environmental impacts and disclose timely information in fundamental business domains, Kaneka Group engages in various environmental initiatives.

To realize a sustainable society, Kaneka Group continues working to reduce environmental impacts and risks, by complying with environmental regulations and legislation, such as the Air Pollution Control Act and the Water Pollution Control Act, and with criteria in agreements with local governments and by checking compliance with them through various means, including internal audits and ESG safety and quality inspections.

Environmental Management Systems

■ ISO 14001 Certification

Manufacturing Sites and Group Companies	Registration No.
Takasago Manufacturing Site	JCQA-E-0105
Osaka Manufacturing Site	JCQA-E-0053
Shiga Manufacturing Site	YKA4004950
Kashima Manufacturing Site	JCQA-E-0054
Vienex Corporation	JSAE1511
Osaka Synthetic Chemical Laboratories, Inc.	JCQA-E-0343
Kaneka Solartech Corporation	JQA-EM6704
Kanto Styrene Co., Ltd.	JEN-2024,0
Sanvic Inc.	JMAQA-E841

Showa Kaseikogyo Co., Ltd. Hanyu Headquarters Factory	E0062
Cemedine Co., Ltd. Ibaraki Office, Mie Office	JCQA-E-0366
Cemedine Co., Ltd. Kinuura Plant	497791UM15
Tatsuta Chemical Co., Ltd. Koga Plant	3571208
Tochigi Kaneka Co., Ltd.	YKA0958035
Kaneka Belgium N.V.	97 EMS 002g
Kaneka (Malaysia) Sdn. Bhd.	ER0523
Kaneka Innovative Fibers Sdn. Bhd.	ER0523
Kaneka Eperan Sdn. Bhd.	ER0523
Kaneka Paste Polymers Sdn. Bhd.	ER0523
Kaneka Apical Malaysia Sdn. Bhd.	ER0916

■ Eco-Action 21 Certification

Group Company	Certification and Registration No.
OLED Aomori Co., Ltd.	0010329
Kaneka Kanto Styrol Co., Ltd.	0004259
Kaneka Sun Spice Corporation	0003556
Kaneka Chubu Styrol Co., Ltd.	0006600
Kaneka Tohoku Styrol Co., Ltd.	0010773
Kaneka Nishinippon Styrol Co., Ltd. Headquarters, Saga Plant, Kagoshima Plant, and Nagasaki Plant	0003949
Kaneka Foods Manufacturing Corporation	0003491
Kaneka Foam Plastics Co., Ltd. Moka Plant	0003247
Kaneka Hokkaido Styrol Co., Ltd.	0001805
Kaneka Medix Corporation	0001893
Kyushu Kanelite Co., Ltd.	0001637
Kochi Styrol Co., Ltd.	0011039
Taiyo Yushi Corporation	0003575
Tokyo Kaneka Foods Manufacturing Corporation	0003473
Nagashima Shokuhin Co., Ltd.	0003093
Hokkaido Kanelite Co., Ltd.	0001905

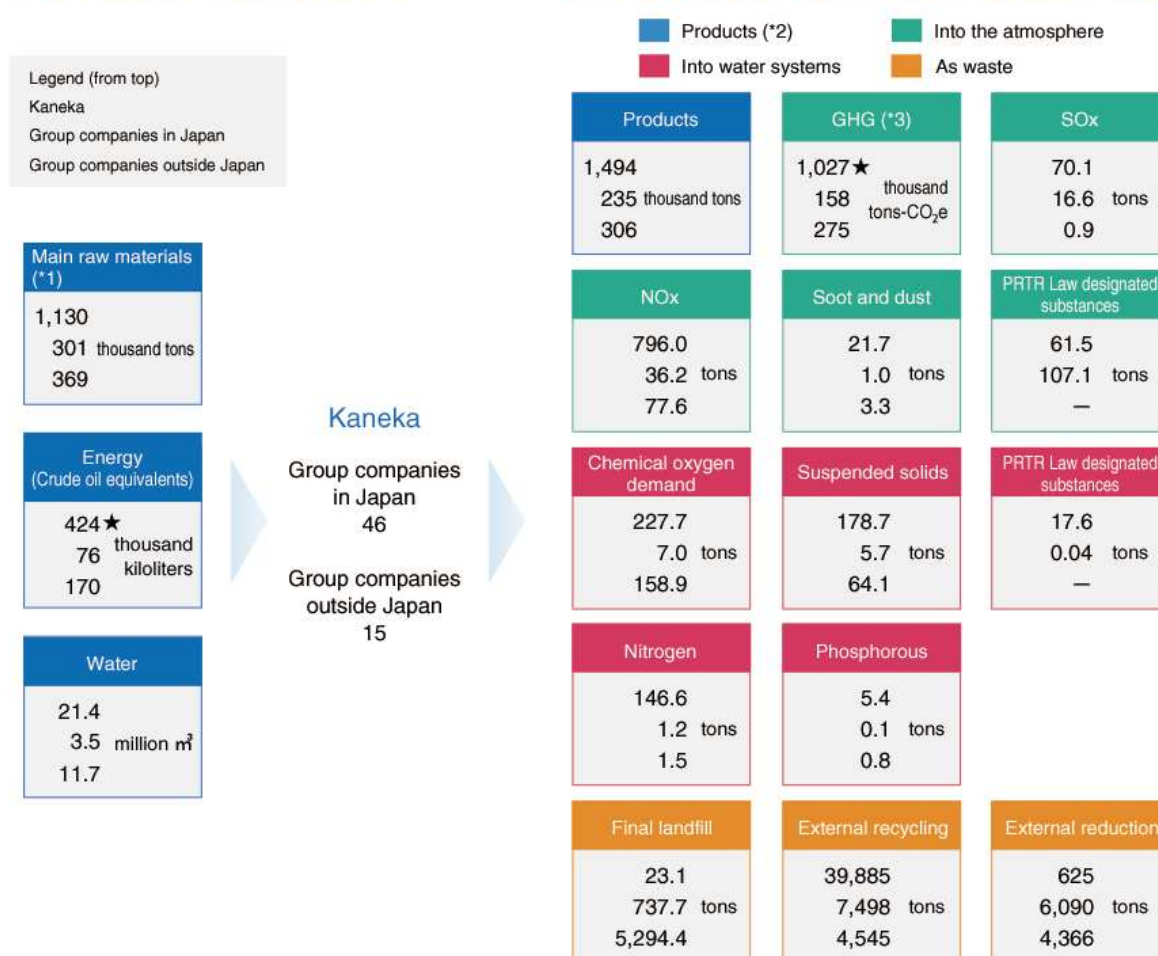
Material Balance in Production Activities

Kaneka Group is working to reduce environmental impacts by aggregating the status of energy and resource inputs and material outputs through emissions and products to grasp production activity volume, targeting Kaneka and Group companies within and outside Japan.

In fiscal 2019, raw material input decreased by 59 thousand tons from the previous year. The product, GHG, SO_x, and NO_x outputs decreased by 68 thousand tons (3.3%), 109 thousand tons-CO₂e (6.9%), 22.8 tons (20.7%), and 37.5 tons (4.0%), respectively. Meanwhile, final landfill waste output increased by 494 tons (8.9%) due to a rise in production volume and differences in the product mix for some Group companies outside Japan.

INPUTS Energy and Resources

OUTPUTS Discharges, Recycling, and Products



*1 Raw materials calculated in or converted to tons

*2 Products calculated in or converted to tons

*3 Greenhouse gas

For data of indicators related to climate change, we have received the third-party assurance by KPMG AZSA Sustainability Co., Ltd. to ensure the reliability and transparency of data. The indicators subject to assurance are marked with the “★” symbols.

■ Calculation Methods for Energy Consumption and Greenhouse Gas (GHG) Emissions

Index	Calculation Methods
Energy Consumption (Crude Oil Equivalents)	Energy consumption is calculated based on the Energy Saving Law (Act on the Rationalization etc. of Energy Use of Japan). The boundaries are consistent with the Energy Saving Law and the Action Plan for a Low Carbon Society prepared by the Japan Chemical Industry Association and include all manufacturing sites and other facilities.
GHG Emissions	GHG emissions, calculated in accordance with the Act on Promotion of Global Warming Countermeasures, are the total amount of energy origin CO ₂ emissions, non-energy origin CO ₂ emissions, and the CO ₂ equivalent of methane and N ₂ O emissions. For emission factors for electricity, the basic emission factors are used for calculation. The boundaries are the same as those for energy consumption.

Environmental Accounting

We calculate the environmental costs (investments and expenditures) and benefits (material quantities), as well as economic impacts (in monetary units) of environmental measures, targeting all parent manufacturing sites and 30 Group companies in Japan (manufacturing companies).

Note: "All parent manufacturing sites" described on the following pages means "all manufacturing sites of KANEKA Corporation".

■ Environmental Costs (Investments, Expenditures)

(Millions of yen)

Cost Classifications	Main Efforts	Fiscal 2017		Fiscal 2018		Fiscal 2019	
		Investments	Expenditures	Investments	Expenditures	Investments	Expenditures
Business Area		1,177	5,036	901	5,460	1,314	5,647
1. Pollution Prevention	Air and water pollution prevention	1,130	3,236	899	3,476	1,293	3,550
2. Environmental Conservation	Addressing climate change and energy saving	-	-	-	-	-	-
3. Resource Recycling	Waste processing, recycling, and reduction	47	1,800	2	1,984	20	2,096
Upstream and Downstream	Product recycling, collection, and processing	0	8	0	6	0	8
Management Activities	Environmental education for employees and environmental impact monitoring and measurement	10	412	1	444	7	463
Research and Development	Research and development of products contributing to environmental conservation	-	7,203	-	7,477	-	9,364
Social Activities	Greening, beautification, and disclosure of environmental information	2	82	0	78	0	113
Environmental Damage	Payment of sulfur oxide emission charges	0	10	0	10	0	9
Total		1,188	12,752	902	13,475	1,321	15,604

Note: These calculations are based on the 2005 edition of the Environmental Accounting Guidelines by Japan's Ministry of the Environment and other reference materials, with Kaneka's own unique way of thinking.

Figures do not include global environment conservation investments and expenditures and research and development investments.

Amounts reported here may not fully match, due to rounding.

■ Quantitative Impact of Environmental Conservation Efforts

Category	Initiatives	Items	Units	Fiscal 2017	Fiscal 2018	Fiscal 2019
Pollution Prevention	Atmospheric and water discharges of hazardous substances	SOx emissions	Tons	102.4	109.5	86.7
		NOx emissions	Tons	919.5	867.6	832.2
		Chemical oxygen demand	Tons	264.1	248.7	234.7
		PRTR Law-designated chemical emissions	Tons	168.5	183.6	186.3
Environment	Greenhouse gas emissions	GHG emissions	Thousand tons-CO ₂ e	1,279.9	1,264.0	1,185.5
	Energy consumption	Crude oil equivalents	Thousand kiloliters	509.0	516.0	500.0
Resource Recycling	Final landfill	Final landfill	Tons	806.9	877.2	760.8
	External recycling	Amounts recycled	Tons	44,900.0	51,002.0	47,383.3

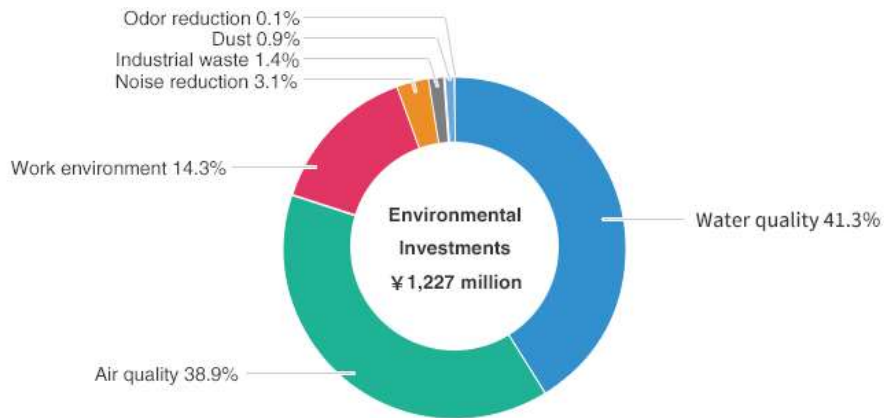
■ Economic Impacts of Environmental Measures

(Millions of yen)

Measures	Fiscal 2017	Fiscal 2018	Fiscal 2019
Revenue from recycling	258	213	131
Cost reductions by better resource efficiency (output per unit of input)	4	-34	8
Waste disposal cost reductions by recycling	327	450	253
Cost reductions by energy conservation	177	247	227
Total	766	876	619

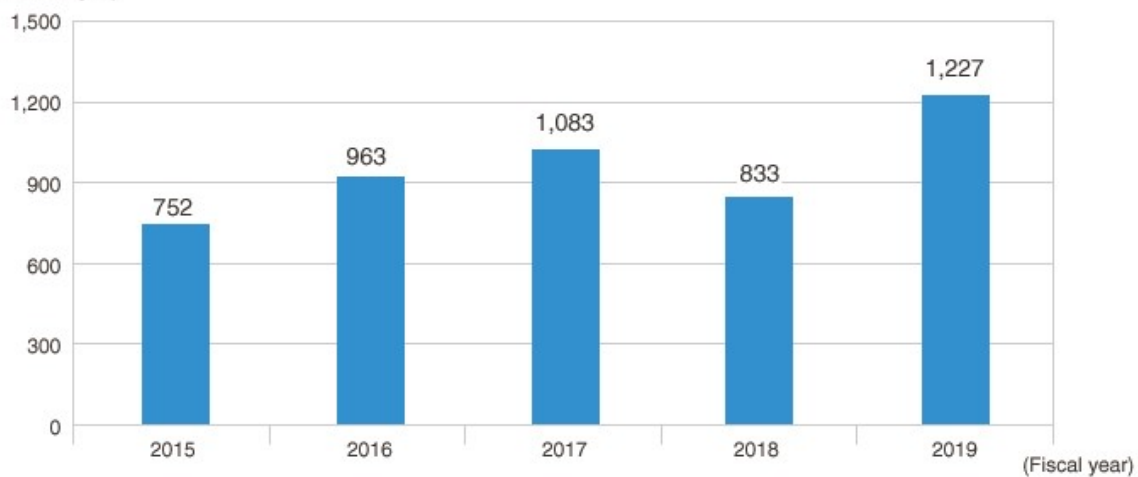
Environmental Investments (Kaneka)

Environmental Investments in Fiscal 2019



Cumulative Environmental Investments

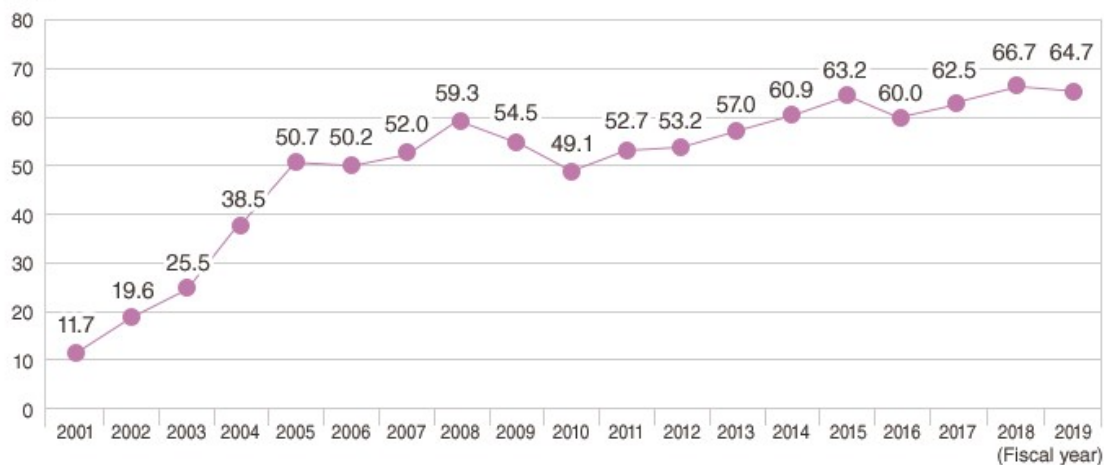
(Millions of yen)



Environment Efficiency (Kaneka)

Environment Efficiency

(yen/EIP)

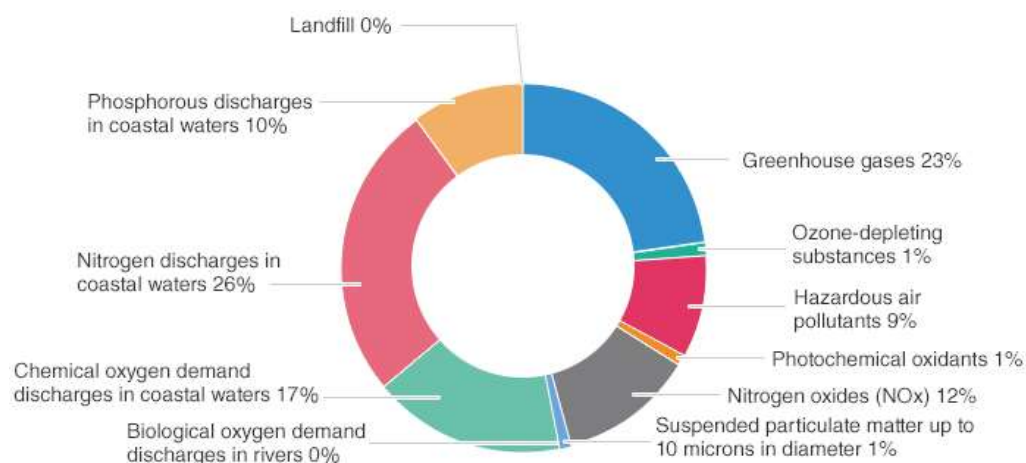


Kaneka assesses the environmental impacts of our production activities using Environmental Impact Points (EIP), which are compiled using the JEPIX methodology (*1), and we use those points to assess our environmental efficiency (*2).

*1 The Japan Environmental Policy Priorities Index (JEPIX) methodology involves the calculation of an "eco-factor" coefficient for each emitted substance that has an environmental impact, using a ratio of the annual target for emissions under national environmental policies versus actual annual emissions ("Distance to Target"). The eco-factors are then multiplied by a quantity for each environmental impact to produce a single integrated indicator known as Environmental Impact Points (EIP). Calculations of eco-factors are done by the JEPIX Project (www.jepix.org, in Japanese).

*2 Environmental efficiency is a yardstick to measure efforts to maximize value while minimizing environmental impacts, with the aim of achieving sustainable growth. Kaneka calculates this by dividing net sales (yen) by the EIP.

■ Details of Total Environmental Impact



Fiscal	Net Sales (million yen)	Environmental Impact (100 million EIPs)	Environmental Efficiency (yen/EIP)
2017	293,016	46.9	62.5
2018	304,951	45.7	66.7
2019	292,084	45.1	64.7

CHECK & ACT

Under environmentally friendly management, we continue working to reduce environmental risks by complying with environmental regulations and legislation and criteria in agreements with local governments and by checking compliance with them through various means, including ISO 14001 internal audits and ESG safety and quality inspections.

We will also continue working to further reduce environmental impact and improve environmental efficiency by promoting energy conservation activities.

To address prevention of global warming, we at the Kaneka Group are working to promote energy conservation and reduce CO₂ emission intensity through various measures, for example by utilizing our own environmental capital investment program.

We also use carbon-Life Cycle Analysis (cLCA) to calculate CO₂ emission reduction benefits by quantitatively assessing CO₂ emissions throughout product lifecycle, making comparisons with similar products. We also calculate indirect greenhouse gas (GHG) emissions (Scope 3) associated with our business activities through supply chains.

For data of indicators related to climate change, we have received the third-party assurance by KPMG AZSA Sustainability Co., Ltd. to ensure the reliability and transparency of data. The indicators subject to assurance are marked with the “★” symbols.

We will continue to expand the scope of information which is assured, in the future.

Energy Conservation Efforts

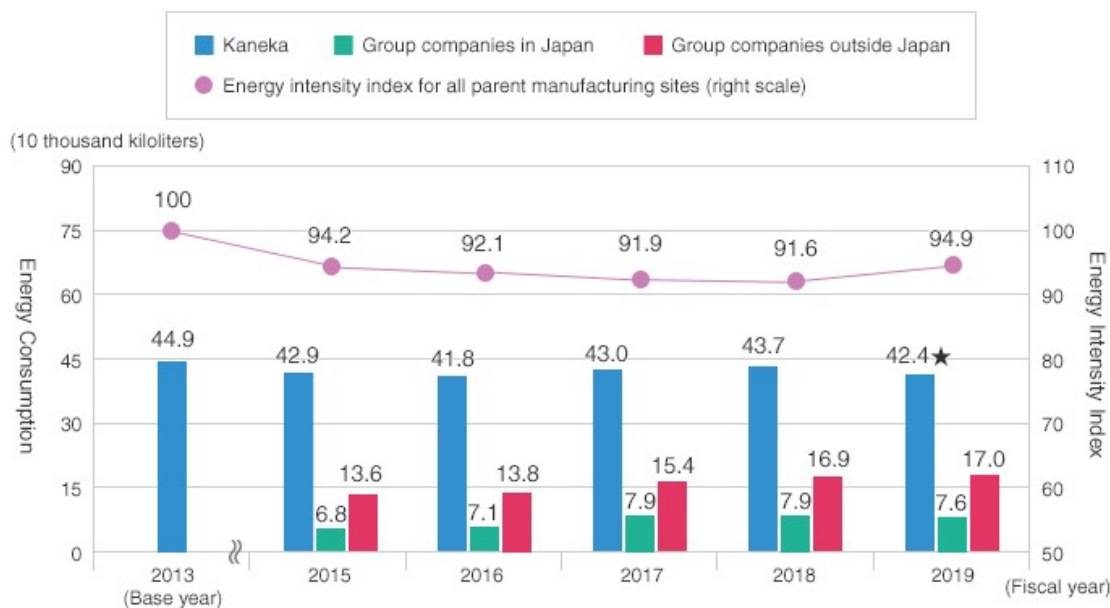
We are engaged in energy conservation activities, using the energy intensity index (*1) as an indicator for management.

The energy intensity index for all parent manufacturing sites in fiscal 2019 was 94.9, an increase of 3.6% from the previous fiscal year. This was due to the impact of the decrease in production volume, which significantly reduced energy use efficiency. The average rate of change over the past five years was an increase of 0.2%, which did not reach our goal (an annual average decrease of 1%).

Non-consolidated energy consumption was 424 thousand kiloliters, a decrease of 3.0% from the previous fiscal year, mainly due to a decrease in production volume.

*1 Energy intensity index: Energy intensity is a numerical value calculated by dividing the energy used in manufacturing by the volume of activity (production volume at all parent manufacturing sites). The energy intensity index is calculated by indexing the energy intensity, with fiscal 2013 used as the base year of 100.

■ Energy Consumption (Crude Oil Equivalents) and Energy Intensity Index



Initiatives to Cut CO₂ Emission Intensity

At Kaneka, we are working to reduce CO₂ emission intensity, using a CO₂ emission intensity index (*2) as an indicator for management, based on CO₂ emissions from energy consumption associated with production activities.

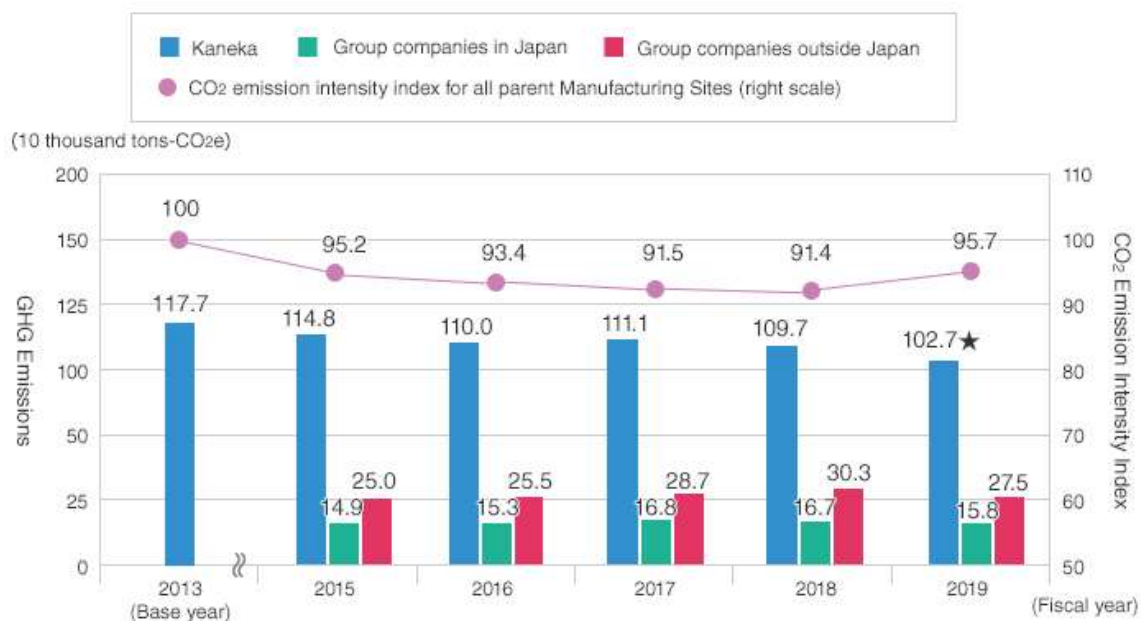
The energy origin CO₂ emission intensity index for all parent manufacturing sites in fiscal 2019 was 95.7, which did not achieve our fiscal 2020 target of 93.2.

Our GHG emissions decreased by 6.3% from the previous year to 1,027 thousand tons-CO₂e due to a reduction in production volume, a decrease in the CO₂ emission factor for electricity, and the results of energy conservation activities.

We will continue to streamline our production processes through innovation to reduce GHG emissions.

*2 CO₂ emission intensity index: CO₂ emission intensity is a numerical value calculated by dividing CO₂ emissions from energy consumption associated with production activities, which are calculated using a fixed emission factor unique to Kaneka, by the volume of activity. The CO₂ emission intensity index is calculated by indexing the CO₂ emission intensity, with fiscal 2013 used as the base year of 100. Our target for fiscal 2020 is 93.2.

■ GHG Emissions and Energy origin CO₂ Emission Intensity Index



GHG Emissions from Business Activities throughout the Supply Chain

We have calculated indirect GHG emissions (Scope 3) associated with our business activities through supply chains. The following tables show our GHG emissions by scope and Scope 3 emissions calculated by category.

■ GHG Emissions by Scope (FY 2019 results at Kaneka)

Scope		GHG emissions [Thousand tons-CO ₂ e/year] (year-on-year)
Scope 1	Direct emissions (*3)	769.6 (+0.3%) ★
Scope 2	Indirect emissions from energy consumption (*4)	257.5 (-21.8%) ★
Scope 3	Other indirect emissions (upstream/downstream) (*3)	2,580.1 (+24.0%)
Total GHG emissions		3,607.2 (+13.5%)

*3 Non-energy origin CO₂ emissions and CO₂-equivalent emissions of methane and N₂O are included.

*4 As emission factors for electricity, the basic emission factor for each power company was used for calculation. GHG emissions calculated using the location-based method were 322.4 thousand tons-CO₂e (-15.9%).

■ Scope 3 Emissions (FY 2019 results at Kaneka)

Category		GHG emissions [Thousand tons-CO ₂ e/year]
1	Purchased goods/services	1,911.7 (*5) ★
2	Capital goods	62.4
3	Fuel-and energy-related activities not included in Scope 1 or Scope 2	145.6★
4	Upstream transportation and distribution	21.9
5	Waste generated in operations	3.3
6	Business travel	10.1
7	Employee commuting	1.1
8	Upstream leased assets	0.0
9	Downstream transportation and distribution	– (*6)
10	Processing of sold products	– (*6)
13	Downstream leased assets	0.0
14	Franchises	– (*7)
15	Investments	423.9
Scope 3 total		2,580.1

Note: Amounts reported here do not fully match, due to rounding in each category.

Methods for calculating GHG emissions for Category 11 “Use of sold products” and Category 12 “End-of-life treatment of sold products” are under consideration. GHG emissions for these categories will be reported from the next fiscal year onward.

*5 Due to the revision of the calculation method, the calculated values increased by 441 thousand tons-CO₂e compared to those calculated using a conventional method.

*6 GHG emissions for this category were not calculated because we were unable to determine a rational calculation method due to the high percentage of intermediate products.

*7 GHG emissions for this category were not calculated because we have no franchise stores.

■ Calculation Methods for Scope 3 Emissions

Category	Description of the Calculation Method
1	The calculation was made using emission factors listed in the LCI database "IDEA ver. 2.3" (National Institute of Advanced Industrial Science and Technology / Sustainable Management Promotion Organization) with the purchase results in this fiscal year considered as the volume of activity. The coverage rate was 100% on a main raw material weight basis.
2	The calculation was made by multiplying investments in each capital formation area by emission factors listed in the Emissions Unit Database for Calculation of Greenhouse Gas Emissions, etc. by Organizations throughout the Supply Chain, (ver. 3.0) published by the Ministry of the Environment of Japan. The coverage rate was 100%.
3	The calculation was made by multiplying electric power, steam, and fuel consumption by emission factors listed in the Emissions Unit Database for Calculation of Greenhouse Gas Emissions, etc. by Organizations throughout the Supply Chain (ver. 3.0) published by the Ministry of the Environment of Japan and in the IDEA database ver. 2.3 (for the calculation of supply chain GHG emissions) published by the National Institute of Advanced Industrial Science and Technology and the Sustainable Management Promotion Organization. The coverage rate for organizations subject to the calculation was 100%.
4	The calculation was made using a calculation method stipulated in the Measures Pertaining to Consigners of the Energy Saving Law. Emission results have been calculated every year since fiscal 2006 according to the Energy Saving Law. The coverage rate was 100%.
5	The calculation was made by multiplying the volume of waste by type from manufacturing sites by emission factors listed in the Emissions Unit Database for Calculation of Greenhouse Gas Emissions, etc. by Organizations throughout the Supply Chain (ver. 3.0) published by the Ministry of the Environment of Japan. The coverage rate was 100%.
6	The calculation was made by multiplying travel costs by transportation mode and the number of stays by emission factors listed in the Emissions Unit Database for Calculation of Greenhouse Gas Emissions, etc. by Organizations throughout the Supply Chain (ver. 3.0) published by the Ministry of the Environment of Japan. The coverage rate was 100%.
7	The calculation was made by multiplying travel costs by transportation mode by emission factors listed in the Emissions Unit Database for Calculation of Greenhouse Gas Emissions, etc. by Organizations throughout the Supply Chain (ver. 3.0) published by the Ministry of the Environment of Japan. The coverage rate was 100%.
8	According to company policy, we do not use leased assets for upstream operations, in principle. However, if some assets are leased, out of necessity, the emissions from them are included in Scope 1 or 2. The coverage rate was 100%.
9	This category was excluded from the scope of calculation because it is difficult to accurately grasp a wide range of downstream logistics operations due to the high percentage of intermediate products and to calculate the emissions using a rational calculation method.

10	This category was excluded from the scope of calculation because it is difficult to accurately grasp a wide range of downstream product processing operations due to the high percentage of intermediate products and to calculate the emissions using a rational calculation method.
13	The calculation was made by multiplying the activity volume of leased assets by emission factors stipulated in the Act on Promotion of Global Warming Countermeasures according to the Basic Guidelines on the Calculation of Greenhouse Gas Emissions throughout the Supply Chain (ver. 2.3) published by the Ministry of the Environment of Japan. Since the emissions associated with assets leased to Group companies are included in the Scope 1 or 2 emissions of each company, they are included in Category 15.
14	This category was considered as an exception for calculation because Kaneka Corporation has no franchise stores.
15	The emissions of Group companies were calculated using a calculation method stipulated in the Act on Promotion of Global Warming Countermeasures according to the Basic Guidelines on the Calculation of Greenhouse Gas Emissions throughout the Supply Chain (ver. 2.3) published by the Ministry of the Environment of Japan and then being multiplied by the relevant equity ratio. Investment in companies other than Group companies was excluded from the scope of calculation because it has not been made to obtain profits.

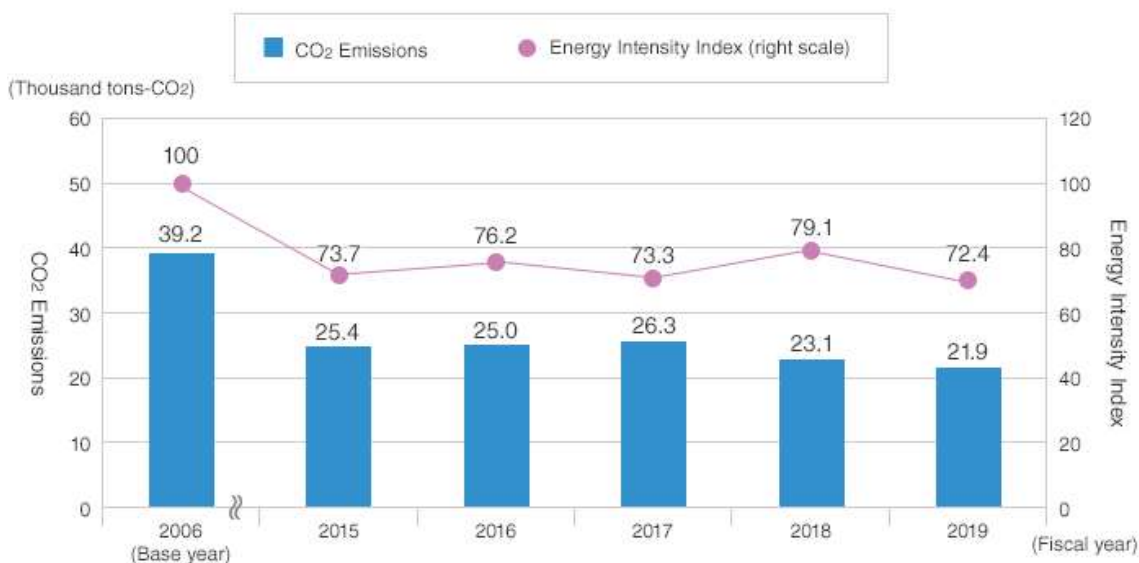
Investments in Energy-Efficient Facilities

■ Results of Our Own Environmental Capital Investment Program

Fiscal Year	Investments	Number	Reduced CO ₂ Emission
2015	¥200 million	22	1,435 tons-CO ₂ /year
2016	¥200 million	23	1,688 tons-CO ₂ /year
2017	¥200 million	15	1,654 tons-CO ₂ /year
2018	¥200 million	24	1,748 tons-CO ₂ /year
2019	¥200 million	29	1,227 tons-CO ₂ /year

Energy-Efficiency Initiatives in Logistics

■ CO₂ Emissions and Energy Intensity Index from Logistics (*8)



*8 Energy intensity index from logistics is a numerical value calculated using a CO₂ emission calculation method stipulated in the Measures Pertaining to Consigners of the Energy Saving Law, with fiscal 2006 used as the base year of 100 for indexing the logistics energy intensity.

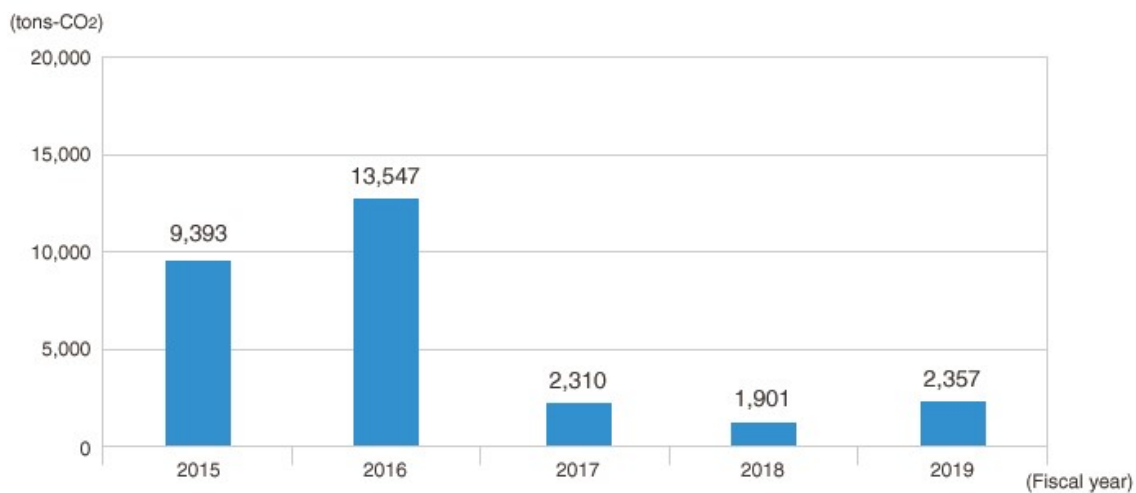
Response to the Fluorocarbons Emission Control Law

Complying with the Act on Rational Use and Appropriate Management of Fluorocarbons in Japan, we are promoting the replacement of aging equipment as well as strengthened management of equipment. The estimated leakage amount of fluorocarbons generated from all parent manufacturing sites in fiscal 2019 was 2,357 tons-CO₂, an increase of 456 tons-CO₂ over the previous fiscal year. No Group companies in Japan exceeded an estimated 1,000 tons-CO₂ leakage of fluorocarbons.

To reduce the estimated leakage of fluorocarbons to less than 1,000 tons-CO₂ by the end of fiscal 2020, we will update aging equipment in a planned way, selecting equipment with low global warming potential (*9) and promoting fluorocarbon-free production. We will also reduce the leakage of fluorocarbons by inspecting equipment to detect and eliminate fluorocarbon leaks at an early stage. For equipment using CFCs, called specific fluorocarbons, we have formulated a plan to update all equipment by 2025.

*9 Global warming potential is a figure that shows, on the basis of carbon dioxide, how other greenhouse gases have the property of causing global warming.

■ Estimated Leakage of Fluorocarbons at Kaneka

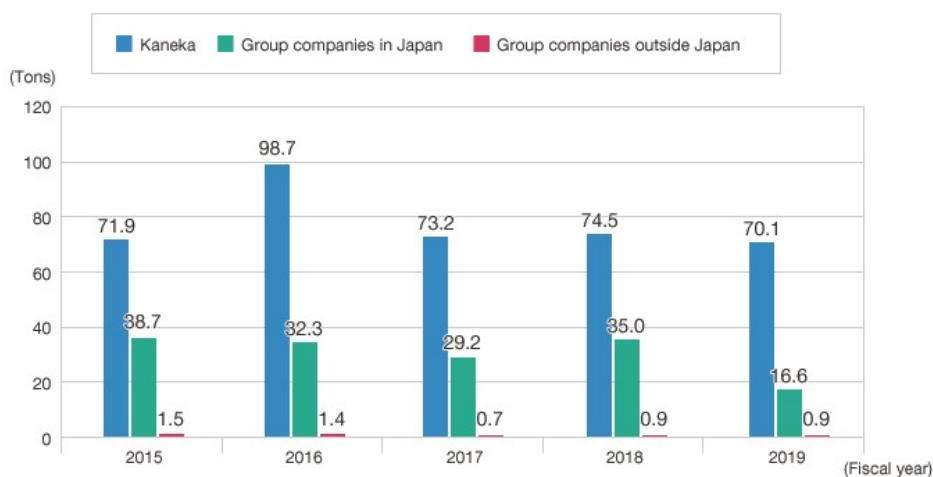


Preventing Pollution and Managing Chemical Substances

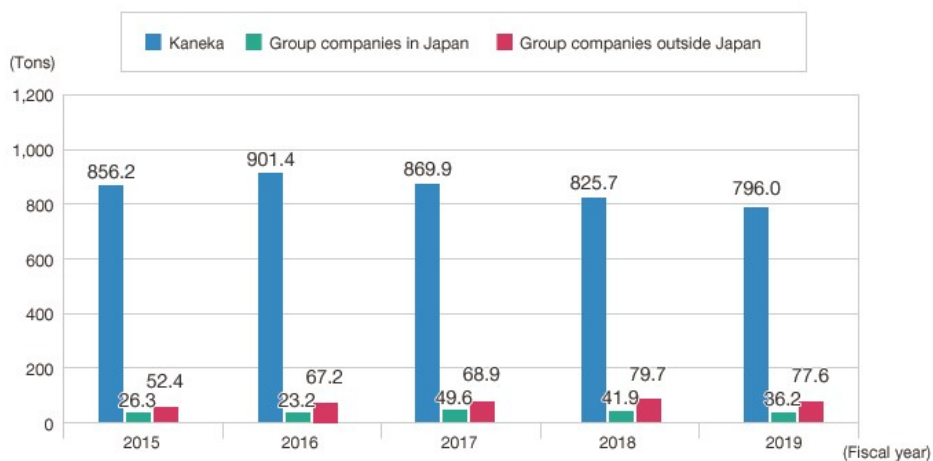
Kaneka Group works to prevent air and water pollution and to ensure appropriate management of chemical substances toxic to humans and the environment and reduce their emissions.

Preventing Air and Water Pollution

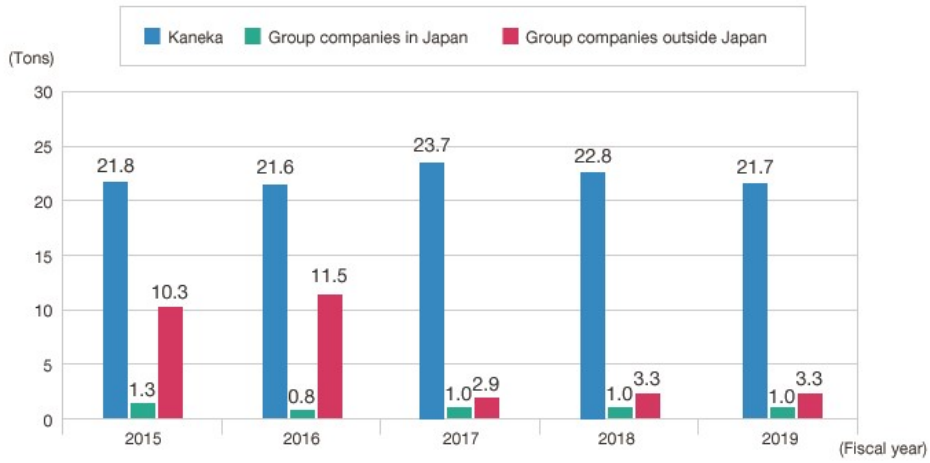
SOx Emissions



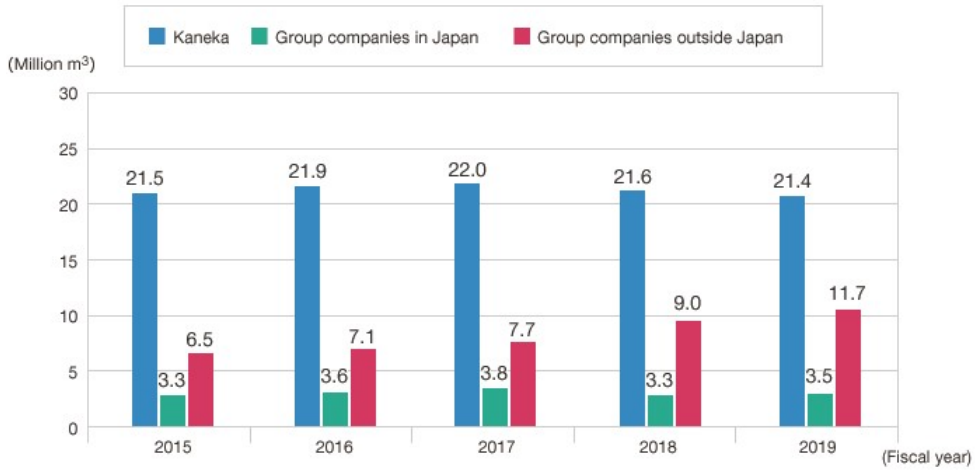
NOx Emissions



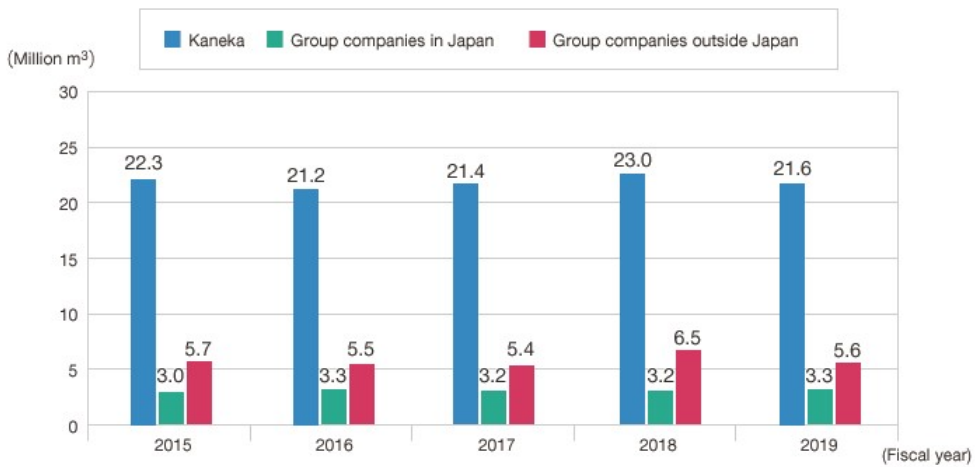
■ Soot and Dust Emissions



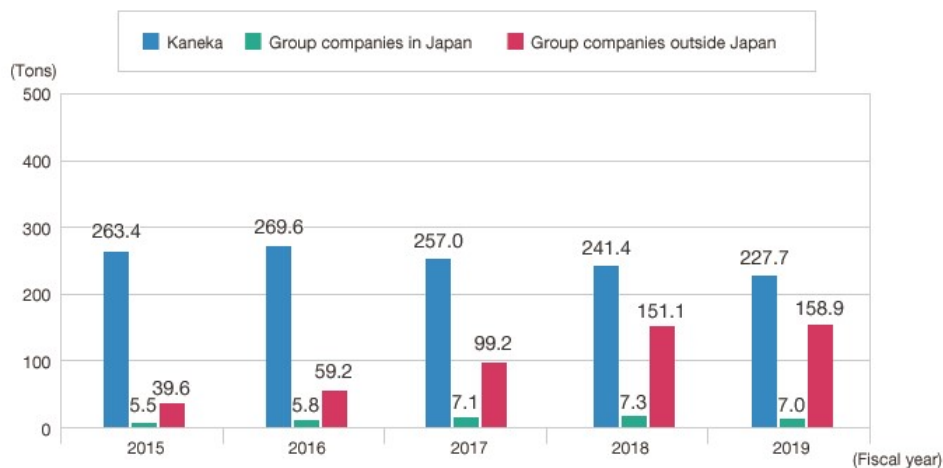
■ Water Consumption (*1)



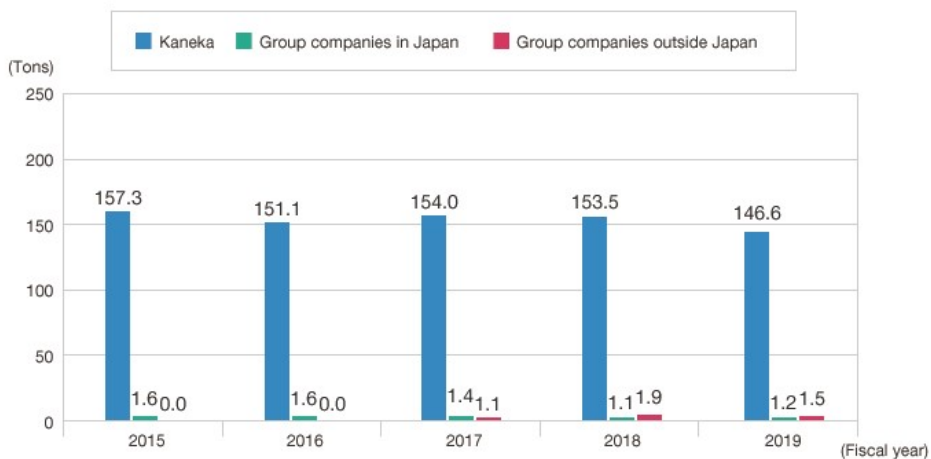
■ Wastewater Discharges (*1)



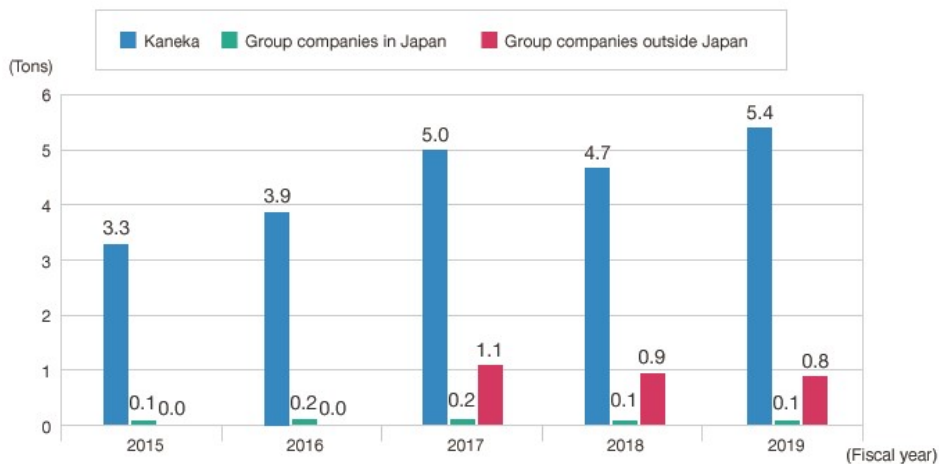
■ Chemical Oxygen Demand in Wastewater (*1)



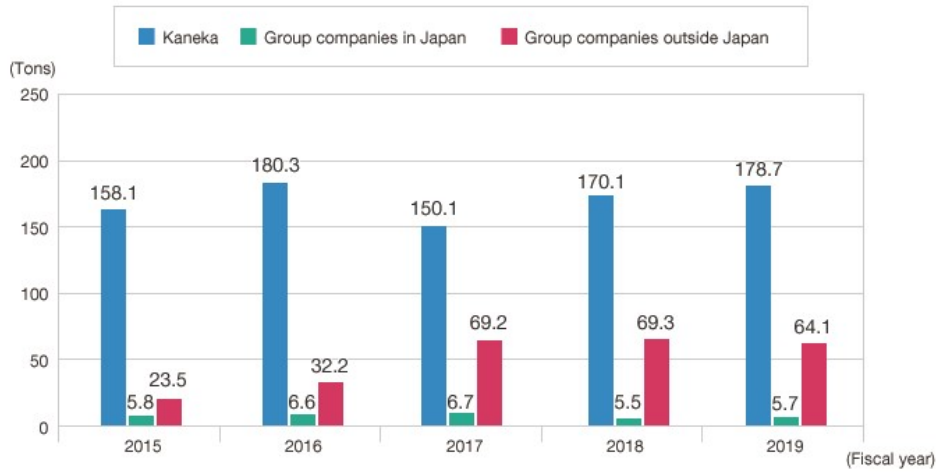
■ Nitrogen in Wastewater (*1)



■ Phosphorous in Wastewater (*1)



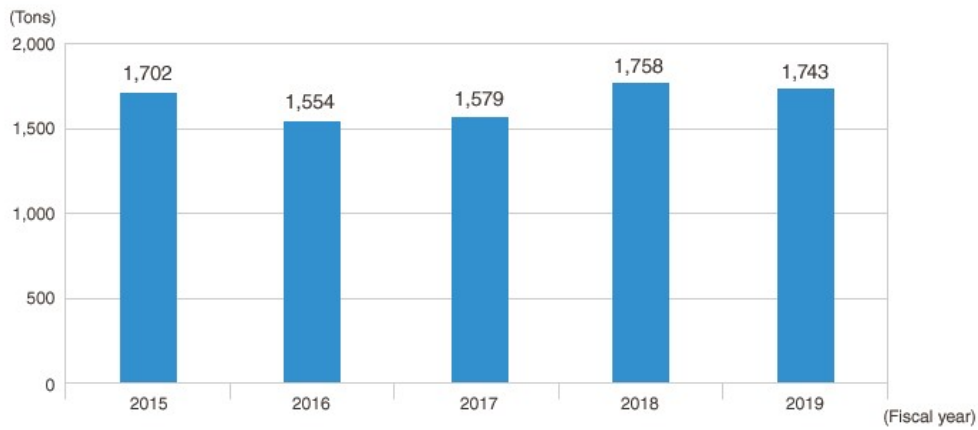
■ Suspended solids in Wastewater (*1)



*1 From fiscal 2015, our water consumption and wastewater volume include those generated from non-manufacturing facilities other than the plant department.

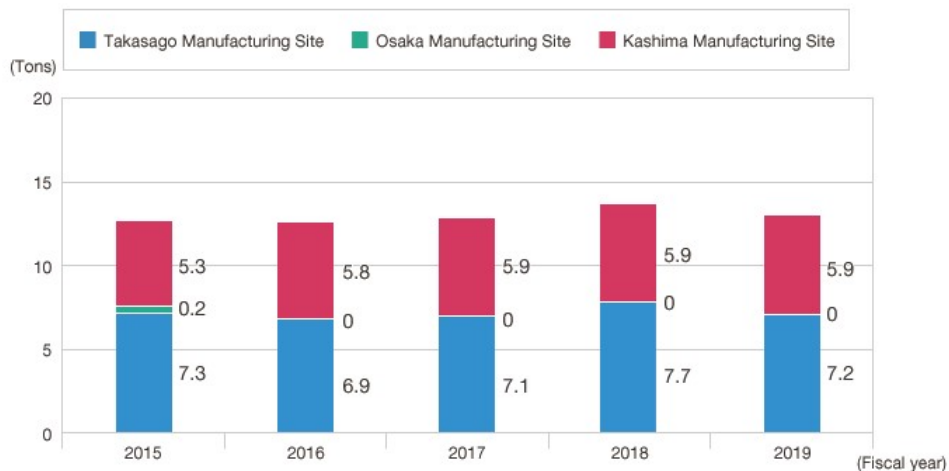
Volatile Organic Compounds Emission Reductions

■ Volatile Organic Compounds Emissions (All parent manufacturing sites)

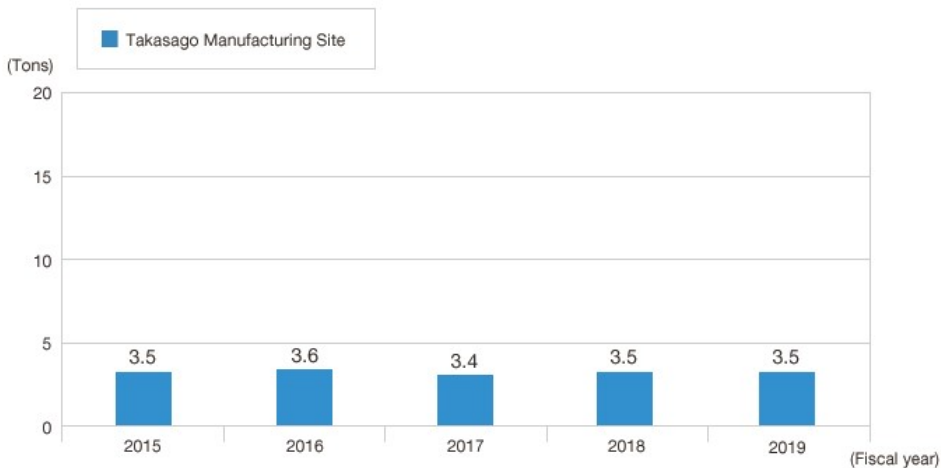


Hazardous Atmospheric Pollutants (Data of six substances for each manufacturing site of Kaneka)

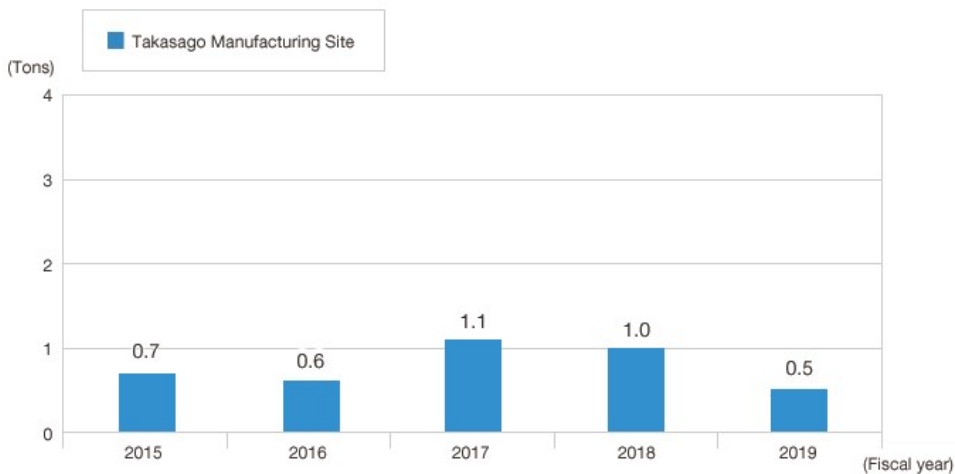
■ Chloroethylene Emissions



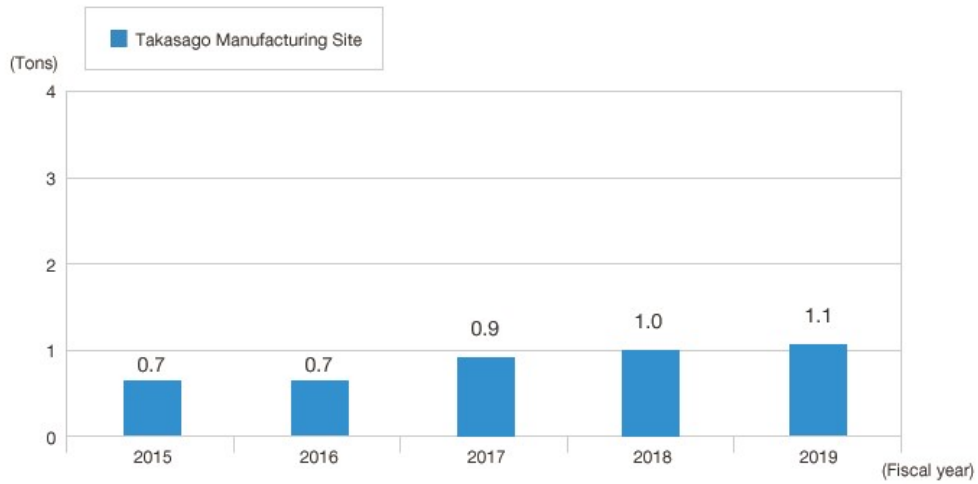
■ 1,2-Dichloroethane Emissions



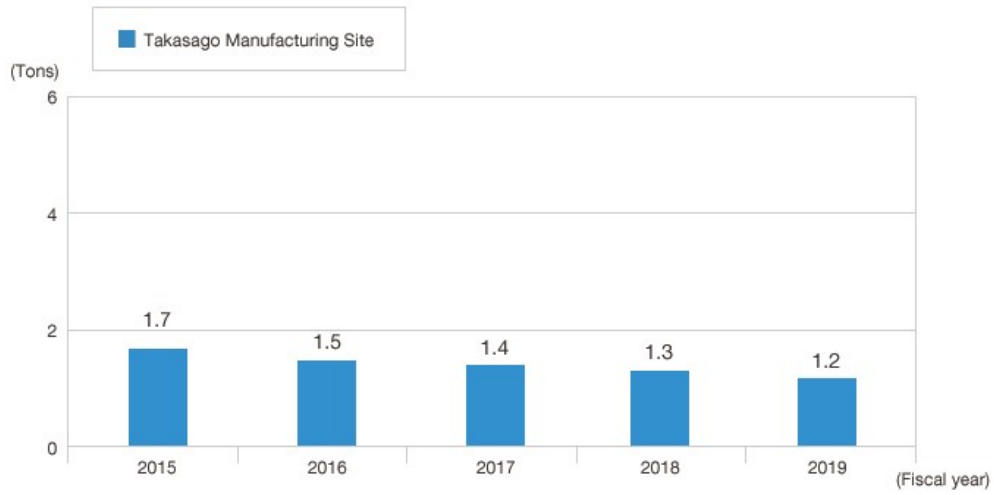
■ Chloroform Emissions



■ Acrylonitrile Emissions



■ 1,3-Butadiene Emissions



■ Dichloromethane Emissions



PRTR Discharge

■ Fiscal 2019 Kaneka Emissions Subject to the Pollutant Release and Transfer Register Law

(Kilograms)

	Designated Number under Ordinance	Chemical Substances	Fiscal 2019					Fiscal 2018	
			Emissions				Transferred	Emissions	
			Atmospheric Emissions	Discharges into Public Waterways	Discharges into Soil	Internal Landfill	Total	Total	Total
Large Discharges of 10 Substances	392	N-hexane	13,600	0	0	0	13,600	101,938	13,500
	94	Chloroethylene (vinyl chloride)	13,100	200	0	0	13,300	970	13,610
	275	Sodium dodecyl sulfate	0	8,200	0	0	8,200	0	8,300
	240	Styrene	5,410	39	0	0	5,449	9,740	5,840
	420	Methyl methacrylate	5,200	5	0	0	5,205	10	5,606
	134	Vinyl acetate	4,200	240	0	0	4,440	0	4,320
	7	N-butyl acrylate	4,150	0	0	0	4,150	2,840	4,360
	157	1,2- dichloroethane	3,400	80	0	0	3,480	0	3,450
	232	N,N- dimethylfor- mamide	2,500	930	0	0	3,430	220,000	5,200
	336	Hydroquinone	0	2,400	0	0	2,400	0	2,300
Total Other than the 10 Substances Above			9,969	5,551	0	0	15,521	276,521	15,778
Grand Total for All Substances			61,529	17,645	0	0	79,175	612,019	82,264

Note: Of the 462 substances subject to the PRTR, Kaneka reports about 61 items.

Amounts reported here may not fully match, due to rounding.

■ Fiscal 2019 Group Company in Japan Emissions Subject to the Pollutant Release and Transfer Register Law (Kilograms)

	Designated Number under Ordinance	Chemical Substances	Fiscal 2019						Fiscal 2018
			Emissions					Transferred	Emissions
			Atmospheric Emissions	Discharges into Public Waterways	Discharges into Soil	Internal Landfill	Total	Total	Total
Large Discharges of 10 Substances	232	N,N-dimethylformamide	62,000	0	0	0	62,000	5,900	54,005
	300	Toluene	28,320	0	0	0	28,320	198,038	28,731
	186	Dichloromethane (methylene dichloride)	9,780	0	0	0	9,780	153,210	11,703
	296	1,2,4-trimethylbenzene	2,309	0	0	0	2,309	0	2,359
	80	Xylene	2,152	0	0	0	2,152	0	2,187
	392	N-hexane	1,050	0	0	0	1,050	20,160	210
	355	Bis (2-ethylhexyl) phthalate (DEHP)	592	40	0	0	632	97,000	587
	213	N,N-dimethylacetamide	600	0	0	0	600	30,000	300
	127	Chloroform	255	0	0	0	255	3,505	150
31	antimony and its compound	0	1	0	0	1	5	1	
Total Other than the 10 Substances Above			0	0	0	0	0	8,867	1,167
Grand Total for All Substances			107,058	41	0	0	107,099	516,685	101,399

Note: Of the 462 substances subject to the PRTR, group companies in Japan reports about 25 items.

Amounts reported here may not fully match, due to rounding.

CHECK & ACT

We are working to reduce environmental impacts on air and water quality and ensure rapid response to any abnormality. The increase in emission by Group companies in Japan is mainly due to increased production of products using N,N-dimethylformamide. We will continue our efforts to reduce the discharge of chemical substances.

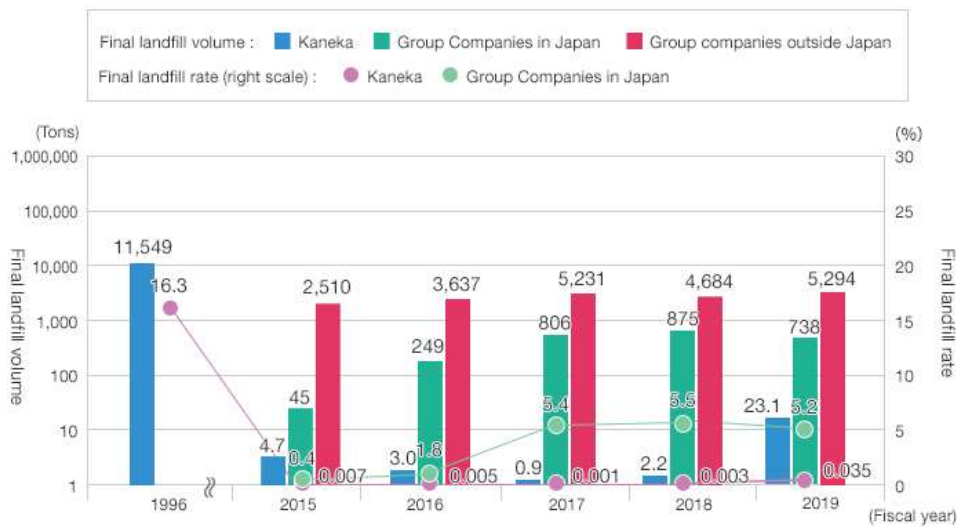
Reducing Waste and Recycling Resources

Through pursuing the 3Rs (reduce, reuse and recycle) aimed at the reduction and recycling of industrial waste from our operations, Kaneka has been able to achieve zero emissions (*1) for 14 consecutive years. We are also working toward all group companies in Japan being able to achieve zero emissions.

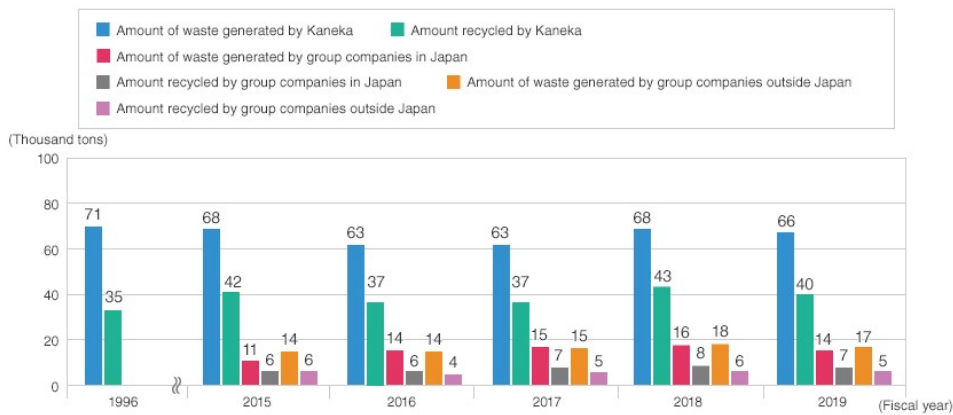
*1 Zero emission defined by Kaneka: The final landfill waste must be less than 0.5% of the generated waste.

Cutting Waste Sent to Landfill

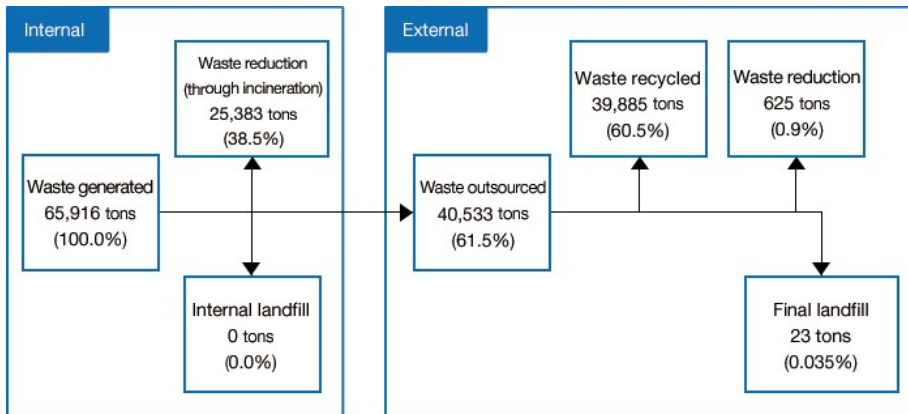
Volume and Rate of Waste Sent to Landfill



Waste Generated and Recycled



■ Waste Flow: From Generation to Landfill (FY 2019 actual)



CHECK & ACT

For industrial waste, we will control waste generation to increase the recycling rate of waste from our operations at home and abroad.

Process Safety and Disaster Prevention

Basic Safety Policies

- ◆ Safety forms our management foundation, and is the basis of all corporate activities.
We take action with priority given to ensuring safety in all activities in the company.
- ◆ Safety is the foundation of local and worldwide communities' confidence in Kaneka.
We do our best to develop their trust.
- ◆ Safety is based on our belief that "All accidents can be prevented."
We always move forward without being satisfied with lukewarm results.
- ◆ Safety is the responsibility of every employee in accordance with his/her duties.
We fulfill our responsibilities by mutually clarifying the duties we have assumed.
- ◆ Safety must be maintained continuously.
We ensure safety through steady efforts on a daily basis.

■ Comprehensive Disaster Drills

Manufacturing Site	Date	Participants	Details
Takasago Manufacturing Site	December 16, 2019	2,158	An earthquake resulting in a fire caused by hazardous material leakage
Osaka Manufacturing Site	November 6, 2019	1,087	An earthquake resulting in a fire caused by harmful material leakage
Shiga Manufacturing Site	November 27, 2019	464	An earthquake resulting in a fire
Kashima Manufacturing Site	March 4, 2020	90	An earthquake resulting in a fire caused by hazardous material leakage

Zero Accident Principles

◆ All people, you and me, are indispensable

We ensure everyone is working safely.

Pledge of safety

◆ Safety is everyone's responsibility

We do not miss sparing the time to seek safety.

Participation in safety

◆ There is no trick to safety

We always value a fundamental approach to it.

Adherence to safety basics

◆ Be aware of potential danger

We endeavor to eliminate safety risks.

Safety in advance

◆ Where there is carelessness, there is the possibility of an accident

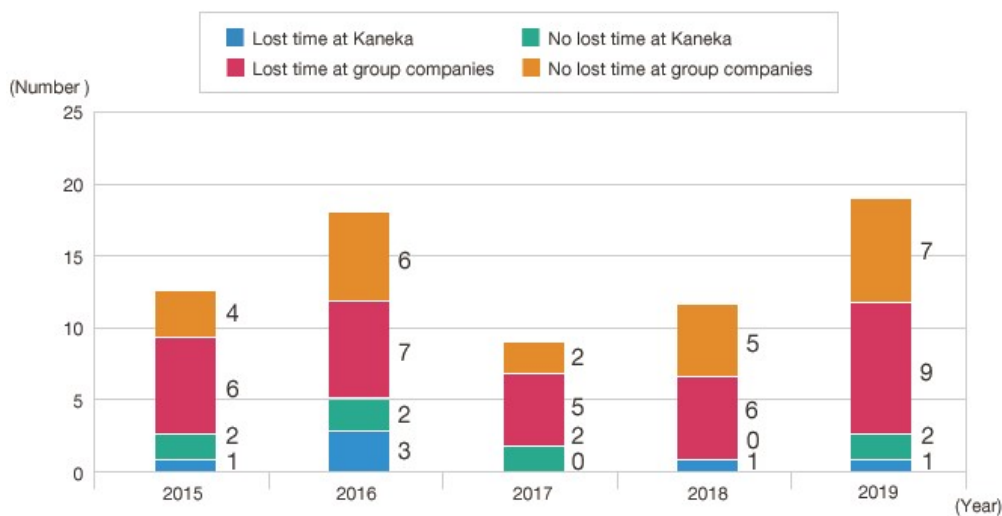
We do not allow even a small chance of negligence.

99%, yet 0%

■ OSHMS Certifications

Manufacturing Site	Location	Certification Date	Certification No.
Takasago Manufacturing Site	Hyogo	March 10, 2008	08-28-13
Osaka Manufacturing Site	Osaka	August 21, 2007	07-27-10
Shiga Manufacturing Site	Shiga	January 15, 2008	08-25-6
Kashima Manufacturing Site	Ibaraki	December 13, 2010	10-8-26

■ Accidents Resulting / Not Resulting in Lost Time



Note: The number of occupational accidents includes those among employees at Kaneka and partner companies working in the Kaneka Group.

■ Accident Frequency Rate and Accident Severity Rate

Area	All Kaneka Group		Kaneka		Group Companies in Japan and Overseas	
	2018	2019	2018	2019	2018	2019
Accident Frequency Rate	0.23	0.52	0.00	0.00	0.36	0.78
Accident Severity Rate	0.02	0.01	0.00	0.00	0.03	0.02

Note: Accident Frequency Rate: An indicator that shows the frequency of occupational accidents that caused death and/or injury by indicating the number of casualties per total 1 million actual working hours.

Accident Severity Rate: An indicator that shows the level of severity of occupational accidents by indicating the number of lost work days per total 1,000 working hours.

Both rates are calculated targeting employees at Kaneka and Group companies.

■ In-house Safety Commendation

Group Company	Award for Zero Accident and Disaster Period
Kaneka Medical Vietnam Co., Ltd.	July 2007 – (12 years)
Kaneka Sun Spice Corporation	July 2014 – (5 years)
Showa Kaseikogyo Co., Ltd.	January 2015 – (5 years)
Taiyo Yushi Corporation	January 2016 – (4 years)

■ Certification as a Safety-conscious Company by the Japan Chemical Industry Association

Group Company	Certification for Zero Accident and Disaster Period
Taiyo Yushi Corporation	January 2016 – (3 years)

Certification Acquisition Status

■ ISO9001 Certification

Division or Group Company (SV : Solutions Vehicle)	Major Products	Registry Organization and Number
Vinyls and Chlor-Alkali SV	Caustic soda, hydrochloric acid, sodium hypochlorite, liquid chlorine, vinyl chloride monomers, polyvinyl chloride, polyvinyl chloride paste, heat-resistant polyvinyl chloride, and OXY chlorination catalyst	JCQA / JCQA-1263
Performance Polymers (MOD)SV	Impact modifiers (Kane Ace B etc.), processing aids and specialty additives (Kane Ace PA etc.), toughener for thermosetting resins (Kane Ace MX), engineering resin for injection molding (Kaneka Hyperite), zero birefringence PMMA material (Kaneka Hyperite), and Acrylic film (Sunduren)	LRQA / 10189365
Performance Polymers (MS)SV	Silyl-terminated polyether (Kaneka MS Polymer etc.), acrylic silicon polymer (Kaneka Gemlac), terminally reactive liquid acrylic polymer (KANEKA XMAP etc.), and isobutylene-based thermoplastic elastomer (SIBSTAR)	
Foam & Residential Techs SV	Bead technique-based polyolefin resins and molded products (Eperan, Eperan PP), bead technique-based expandable polystyrene (Kaneparl), and extruded polystyrene foam board (Kanelite)	JCQA / JCQA-0673
Hokkaido Kanelite Co., Ltd.		
Kyushu Kanelite Co., Ltd.		
E & I Technology SV	Ultra-heat-resistant polyimide films (Apical, Pixeo), optical film (Elmech), bonded magnets (Kaneka Flux), multi-layered insulation materials, PVC pipes for underground electric cables, high thermal-conductive graphite sheet (Graphinity), thermal conductive elastomer, and flexible cover coat ink	LRQA / YKA0935762
	Highly heat-resistant and light-resistant resins and molded products	DNV / 01635-2006-AQ-KOB-RvA/JAB
PV & Energy management SV	Photovoltaic modules	JQA / JQA-QMA13200
Kaneka Solartech Corporation		
Kaneka Solar Marketing Corporation		

Foods & Agris SV		
Takasago Manufacturing Site Foods Manufacturing Department	Margarine, shortening, edible oils and fats, edible refined oils and fats, whipped cream, concentrated milk products, modified milk, fermented milk products, flour paste, butter cream, chocolate, frozen dough, cheese, mayonnaise, cooking fillings, prepared foods, yeast, antifreeze protein, antifreeze polysaccharide, and seasoning materials	JQA / JQA-QMA10274
Kaneka Foods Manufacturing Corporation		
Tokyo Kaneka Foods Manufacturing Corporation		
Kaneka Foods Corporation	Purchase, design, sales, technological services, and quality assurance for processed foods and raw materials, and sales of food processing machinery	
NJF Co., Ltd.	Production instruction of processing contractors	
OLED Business Development Project	Organic electroluminescent lighting	JMAQA / JMAQA-2532
OLED Aomori Co., Ltd.		
Showa Kaseikogyo Co., Ltd.	Plastic compounds	ASR / Q0556
Tatsuta Chemical Co., Ltd.	Plastic film, plastic sheet	BVJ / 4503769
Sanvic Inc.	Synthetic resin sheets and films	JMAQA / JMAQA-1824
Tobu Chemical Co., Ltd.	Plastic wallpaper, vinyl chloride resin wallpaper	LRQA / YKA0958154
Cemedine Co., Ltd.	Development and manufacture of general and industrial adhesives, sealants and special paints	JCQA / JCQA-0386
Kanto Styrene Co., Ltd.	Polystyrene foam molded products	JACO / QC03J0233
Kaneka Foam Plastics Co., Ltd. Moka Plant	Bead technique-based polyolefin molded products	ASR / Q1919
Kaneka Foam Plastics Co., Ltd. Kyusyu Plant	Bead technique-based polyolefin molded products	JACO / QC17J0033
Tamai Kasei Co., Ltd.	A series of operations related to order receipt, manufacturing, inspection, and shipping of Phase Change Material (PCM) (Patthermo)	ASR / Q4131
Vienex Corporation	Electronic products	JSA / JSAQ2593
Shinka Shokuhin Co., Ltd.	Modifiers for bread and confectionery, processed fruit products, outsourced products (margarine, cooking fillings, modified milk)	JQA / JQA-QMA15323
Taiyo Yushi Corporation	Margarine, shortening, edible refined oils and fats, edible vegetable oils and fats, refined lard, other edible oils and fats, processed fats, dairy products, and food additives	JQA / JQA-QMA14671
	Cosmetics for hair and skin care, dental care items, body soaps, and soaps for clothes , dish washing and house cleaning	BVJ / 4171923

Kaneka Sun Spice Corporation	(1) Spices and secondary processed products incorporating spices (2) Purchase and sales of general processed foods and their ingredients	JQA / JQA-QMA11351
Nagashima Shokuhin Co., Ltd.	Frozen puff pastry dough and frozen cookie sheets	JQA / JQA-QMA15844
Tochigi Kaneka Corporation	Bonded magnets (Kaneka Flux), multilayer insulation materials, and high thermal-conductive graphite sheet (Graphinity)	LRQA / YKA0958035
Kaneka Belgium N.V.	Modifier resins (Kane Ace), bead technique-based polyolefins (Eperan, Eperan PP), modified silicone polymer (Kaneka MS Polymer), and acrylic sol	AIB-VINCOTTE / BE-91 QMS 028i
Kaneka North America LLC	Ultra-heat-resistant polyimide films (Apical), modifier resins (Kane Ace and Kaneka Telalloy), heat-resistant vinyl chloride resins, and modified silicone polymers (Kaneka MS Polymer)	BSI / FM72722
Kaneka (Malaysia) Sdn. Bhd.	Modifier resins (Kane Ace)	SIRIM QAS / QMS 00900
Kaneka Paste Polymers Sdn. Bhd.	Vinyl chloride paste resin	SIRIM QAS / QMS 00900
Kaneka Apical Malaysia Sdn. Bhd.	Ultra-heat-resistant polyimide films (Apical), High thermal-conductive graphite sheet (Graphinity)	SIRIM QAS / QMS 00900
Kaneka MS Malaysia Sdn. Bhd.	Modified silicone polymer (Kaneka MS Polymer)	SIRIM QAS / QMS 00900
Kaneka Innovative Fibers Sdn. Bhd.	Synthetic fibers	SIRIM QAS / QMS 00900
Kaneka Eperan Sdn. Bhd.	Bead technique-based polyolefins (Eperan, Eperan PP)	SIRIM QAS / AR2598
Kaneka Eperan (Suzhou) Co., Ltd.	Bead technique-based polyolefins (Eperan, Eperan PP)	SGS / CN18/20031
Kaneka (Foshan) High Performance Materials Co., Ltd.	Bead technique-based polyolefins (Eperan, Eperan PP)	Beijing East Allreach certification Center Co., Ltd. / USA19Q44009R 1S
Kaneka (Thailand) Co., Ltd.	Bead technique-based polyolefin resins and molded products (Eperan, Eperan PP)	BSI / FM714676
KSS Vietnam Co., Ltd.	Processed spices, herbs, dried vegetables, and mixed spices	Intertek Certification Limited / CPRJ-2015-040996
Kaneka Eurogentec S.A.	Products and services for research and development in life science	BSI / FS 638601
Anaspec Inc.	Peptides, antibodies, synthetic resins, amino acids, and reagents for research	SQA/09.357.1

■ ISO13485 Certification (*1)

Division or Group Company (SV: Solutions Vehicle)	Main Products	Registry Organization and Number
Medical SV Kaneka Medix Corporation	Lixelle, liposorber, catheters, silascon, and ED coil	TÜV SÜD / Q5 024736 0069
Kaneka Medical Vietnam Co., Ltd.	Catheters (parts)	
Kaneka Medical Tech Corporation	Endoscopic instruments	
Kaneka Eurogentec S.A.	<i>In vitro</i> diagnostic oligonucleotides	BSI / MD 638600

*1 ISO 13485 is an international standard covering the comprehensive management system requirements for the design and manufacture of medical equipment.

■ ISO22000 Certification (*2)

Production Unit or Group Company	Main Products	Registry Organization and Number
Takasago Manufacturing Site Pharmaceutical Department	Coenzyme Q10 (Kaneka Q10, Kaneka QH)	SGS / JP10 / 030379
Kaneka Sun Spice Corporation	Spices and secondary processed products incorporating spices	JQA / JQA-FS0123
KSS Vietnam Co., Ltd.	Processing of spices, herbs, dried vegetables, and mixed spices	Intertek Certification Limited / 38191405003

*2 ISO 22000 is an international standard for food safety management systems.

■ Food Safety System Certification 22000 (FSSC 22000) Certification (*3)

Division or Group Company (SV: Solutions Vehicle)	Main Products	Registry Organization and Number
Foods & Agris SV	Margarine, shortening, flour paste, butter cream, edible oils and fats, edible refined oils and fats, concentrated milk products, modified milk, cheese, whipped cream, yeast, fermented milk products, antifreeze protein, antifreeze polysaccharide, and seasoning materials	JQA / JQA-FC0047

Takasago Manufacturing Site Foods Manufacturing Department	Margarine, shortening, edible oils and fats, edible refined oils and fats, whipped cream, concentrated milk products, modified milk, and yeast	JQA / JQA-FC0047-1
Kaneka Foods Manufacturing Corporation	Margarine, flour paste, buttercream, cheese, fermented milk products, antifreeze protein, antifreeze polysaccharide, and seasoning materials	JQA / JQA-FC0047-2
Tokyo Kaneka Foods Manufacturing Corporation	Margarine, shortening, flour paste, buttercream, and whipped cream	JQA / JQA-FC0047-3
Taiyo Yushi Corporation	Margarine, shortening, edible refined oils and fats, edible vegetable oils and fats, refined lard, other edible oils and fats, processed fats, and dairy products (butter)	JQA / JQA-FC0044
Nagashima Shokuhin Co., Ltd.	Frozen dough (pies and confectionery)	JQA / JQA-FC0109

*3 FSSC22000 is a sector for food safety management system, which based on the ISO 22000 with the addition of ISO/TS 22002-1 requirements.

■ ISO22716 Certification (*4)

Group Company	Main Products	Registry Organization and Number
Taiyo Yushi Corporation	Shampoos, conditioners, body soaps, and hand creams	BVJ / 3889080

*4 ISO 22716 is guidelines on the Good Manufacturing Practices (GMP) of cosmetic products.

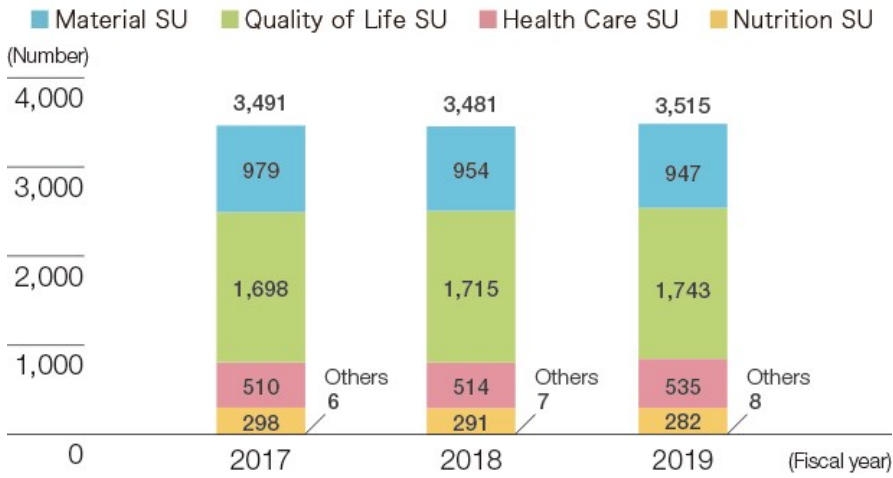
■ ISO17025 Certification (*5)

Group Company	Main Products	Registry Organization and Number
Tokyo Kaneka Foods Manufacturing Corporation	Microbial testing (viable bacteria count, coliform count)	JAB / RTL04360

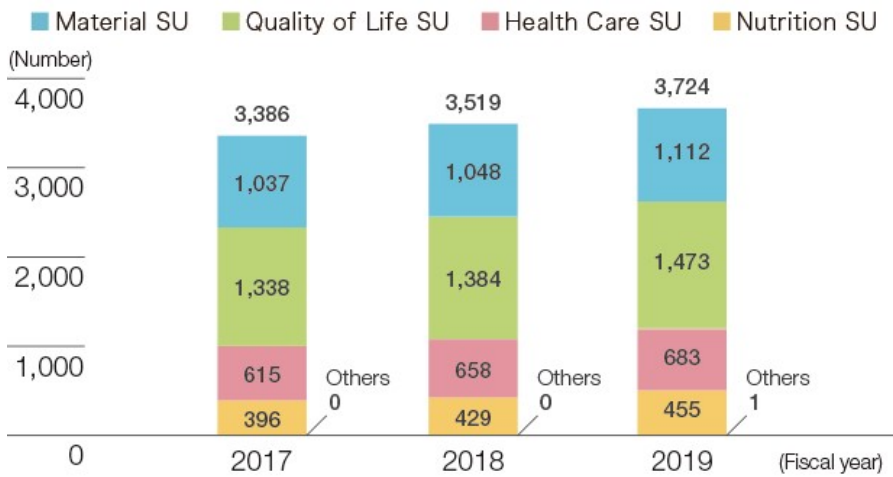
*5 ISO17025: General requirements for the competence of testing and calibration laboratories; Criteria based on which an accreditation body assesses whether the relevant testing and calibration laboratory can produce accurate measurement and calibration results.

Intellectual Property

Number of Domestic Patents Held



Number of Foreign Patents Held



Job Satisfaction / Diversity

Note: The data is for Kaneka alone. If other data is included, an annotation has been added.

■ Human Rights Education

Program Name	Content	Fiscal 2017	Fiscal 2018	Fiscal 2019
		No. of participants	No. of participants	No. of participants
Training sessions for new employees	Training concerning sexual harassment, power harassment, and discrimination based on nationality, and other issues	137	131	121
New managers training	Human rights education session with external experts	46	48	59

■ Implementation of Career Development and Life Design Support Activities

Program Name	Fiscal 2017	Fiscal 2018	Fiscal 2019
	No. of participants (No. of training sessions)	No. of participants (No. of training sessions)	No. of participants (No. of training sessions)
Career-design training	382	272	139
Life-design training	63 (7)	75 (6)	— (*1)

*1 A life planning booklet was distributed to employees.

■ Global Human Resource Development

Program Name	Content	Fiscal 2017	Fiscal 2018	Fiscal 2019
		No. of participants	No. of participants	No. of participants
Global Employee Development Program	Practical acquisition of foreign language for communication	(Registrants) 2,215	(Registrants) 2,394	— (*2)
English and Chinese language trainings	Acquisition of languages required for overseas business	55	46	76
Overseas Trainee Dispatch Program	One-year work experience at a group company outside Japan	12	7	10

In addition to the above, we provide various other programs/systems, including the overseas language study program and the language training before overseas transfer.

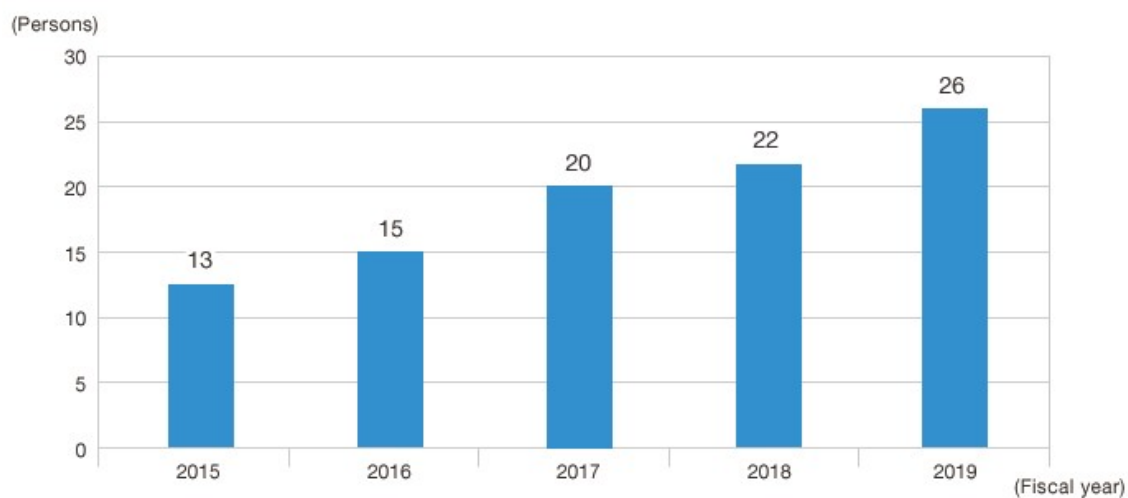
*2 The Global Employee Development Program was not implemented because a full review was conducted for the program.

■ Development of Leaders

Program Name	Content	Fiscal 2017	Fiscal 2018	Fiscal 2019	Total from the start of the program
		No. of participants	No. of participants	No. of participants	No. of participants
Hitotsubu-no Tane Momi Juku	Lectures and exercises by the top management and first-class instructing staff targeted at future leaders and management personnel	12	12	12	61
Kaneka Creative Corner	Lectures and exercises by the top management and first-class instructing staff targeted at future leaders of national staff	12	12	Not implemented	34
The Leadership Challenge Workshop	Acquiring and practicing leadership skills and follow-up	(outside Japan) 24	(outside Japan) 21	(outside Japan) 36	(outside Japan) 464
		(in Japan) 236	(in Japan) 288	(in Japan) 187	(in Japan) 1,138

Note: Aggregated data for Kaneka and group companies in and outside Japan.

■ Number of Female Executives



■ Ratio of Female Hired



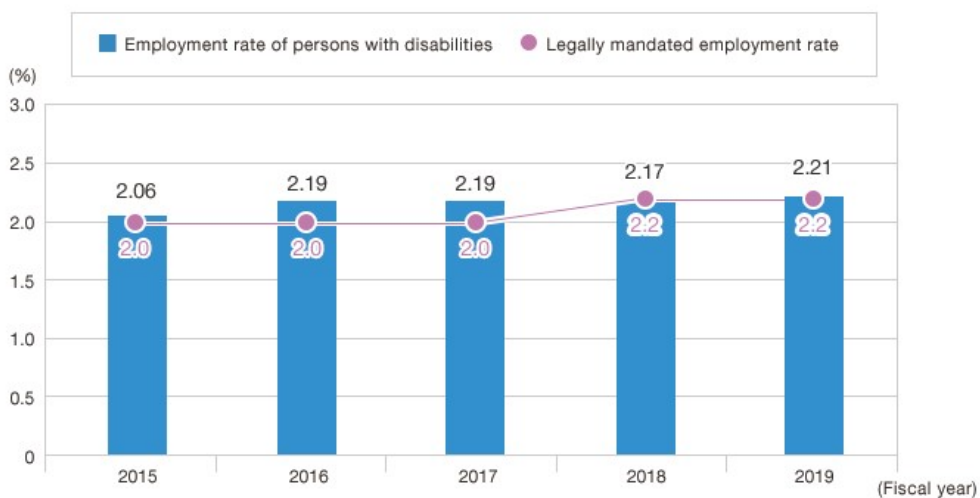
Note: Ratio of new female graduates who graduated from technical colleges, universities, and higher-level schools. The figures for fiscal 2019 includes those hired in spring and autumn.

■ Changes in New Hires Who Come from Countries Other than Japan (New Graduates)

Year Hired	Technical Staff	Clerical Staff	Total
2015	2	2	4
2016	5	2	7
2017	3	1	4
2018	0	1	1
2019	2	3	5 (*3)

*3 The figures for fiscal 2019 includes those hired in spring and autumn.

■ Employment Rate of Persons with Disabilities



■ Number of Users

Name of program	Term and period	Fiscal 2017	Fiscal 2018	Fiscal 2019
Childcare leave (on an acquisition basis)	By the day before the child becomes 2 years and 6 months old	(male) 2	(male) 5	(male) 14
		(female) 44	(female) 44	(female) 42
Child nursing care leave	By the beginning of a semester for a child in the 4th grade (5 days per year per person) maximum of 10 days per year for an employee with two or more children)	(male) 60	(male) 72	(male) 81
		(female) 62	(female) 59	(female) 64
Shorter work-hours program	By the beginning of a semester for child in 7th grade (maximum of 2 hours per day per person)	(male) 0	(male) 1	(male) 2
		(female) 48	(female) 63	(female) 66
Babysitting Expenses Aid System	Company covers part of babysitting expenses for a child ages 0 to 2	26	23	27

Nursing care leave	1 year or less for one eligible family member	2	0	1
Telecommuting	Until fiscal 2018: Employees in pregnancy, child-rearing (by the beginning of a semester for child in 7th grade) or nursing care can work at home (4 days per month) From fiscal 2019: Eligibility expanded to all employees	21	34	–
Leave of Absence for Spouse's Overseas Transfer System	A maximum of 3 years from the day when the employee's spouse is transferred abroad	1	2	2



Independent Assurance Report

To the President of KANEKA CORPORATION

We were engaged by KANEKA CORPORATION (the “Company”) to undertake a limited assurance engagement of the environmental performance indicators marked with ★ (the “Indicators”) for the period from April 1, 2019 to March 31, 2020 included in its Data Sheet 2020 (the “Data Sheet”) for the fiscal year ended March 31, 2020.

The Company’s Responsibility

The Company is responsible for the preparation of the Indicators in accordance with its own reporting criteria (the “Company’s reporting criteria”), as described in the Data Sheet.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Indicators based on the procedures we have performed. We conducted our engagement in accordance with the ‘International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information’ and the ‘ISAE 3410, Assurance Engagements on Greenhouse Gas Statements’ issued by the International Auditing and Assurance Standards Board. The limited assurance engagement consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Data Sheet, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing the Company’s responsible personnel to obtain an understanding of its policy for preparing the Data Sheet and reviewing the Company’s reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the Indicators.
- Performing analytical procedures on the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company’s reporting criteria, and recalculating the Indicators.
- Visiting one of the Company’s factories selected on the basis of a risk analysis.
- Evaluating the overall presentation of the Indicators.

Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Data Sheet are not prepared, in all material respects, in accordance with the Company’s reporting criteria as described in the Data Sheet.

Our Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

KPMG AZSA Sustainability Co., Ltd.

Osaka, Japan

May 17, 2021