

Data

Scope of environmental management: All domestic offices of Taisho Pharmaceutical (such as the head office, five branch offices and three domestic offices under their control, five logistics centers, three factories, and the Research Center) and Taisho Pharma Co., Ltd., MEJIRO KOSAN Co., Ltd., and Taisho Pharmaceutical Logistics Co., Ltd. out of its group companies are within the scope of environmental management.

Environmental Accounting

Environmental accounting is based on the calculations according to the Taisho Pharmaceutical Environmental Management Accounting Preparation Procedures (Rev. 2), which is based on Environmental Accounting Guidelines 2005 published by the Ministry of the Environment. [Target period: April 1, 2019 to March 31, 2020]

Environmental Conservation Costs

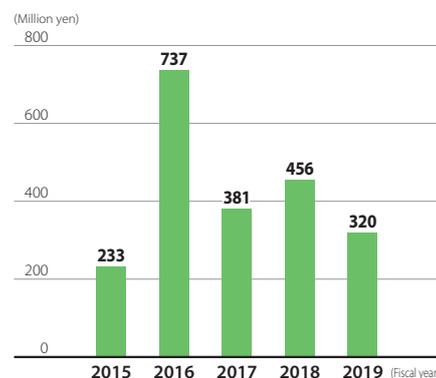
Category	Main initiative	Invested cost (Million yen)	Cost (Million yen)
Costs in the business area		310	795
Breakdown	Pollution control cost	16	190
	Global environmental conservation cost	294	492
	Resource recycling cost	0	113
Up/downstream cost	Outsourcing cost for recommodification of containers and packaging/ Waste product treatment	0	193
Management activity cost	Monitoring of environmental loads/ Compliance and operation of ISO 14001	6	33
Research and development cost	Research and development for environmentally friendly products/ Purchasing of raw materials for research	0	0
Social activity cost	Activity costs of and donation to industry groups	0	0
Environmental damage solution cost	Implementation of soil and groundwater pollution measures	4	18
Total		320	1,039

Environmental Conservation Costs

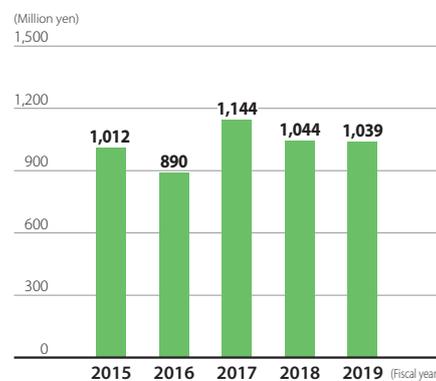
Details of effects		FY2018	FY2019	Reduced volume	Reduction rate (%)
Effects on environmental conservation that correspond to the costs in the business area (Resources)	Total energy input (thousand GJ)	1,142	1,100	42	3.7
	Power consumption (10,000 kWh)	6,718	6,600	118	1.8
	Usage of city gas (thousand m ³)	7,462	7,596	(134)	(1.8)
	Usage of Bunker A (kL)	1,194	1,360	(166)	(13.9)
	Usage of LPG (m ³)	696	653	43	6.2
	Usage of gasoline (kL)	2,491	1,747	744	29.9
	Usage of light fuel oil (kL)	0	0	0	0.0
	Usage of water (thousand m ³)	707	777	(70)	(9.9)
	Usage of groundwater	461	521	(60)	(13.0)
	Usage of tap water (domestic water)	224	231	(7)	(3.1)
Breakdown	Usage of industrial water	19	22	(3)	(15.8)
	Usage of greywater (rain water)	3	3	0	0.0
	Transaction volume of specific chemical substances* (tons)	212	132	80	37.7
	Volume of CO ₂ emissions (tons)	58,722	56,440	2,282	3.9
	Effects on environmental conservation that correspond to the costs in the business area (Emissions)	Emission volume from production and office work activities	48,456	52,394	(3,938)
Emission volume from sales and logistics activities		10,266	4,046	6,220	60.6
Total waste volume (tons)		4,564	4,425	(139)	(3.0)
Final landfill disposal volume (tons)		11	13	(2)	(18.2)
Total emission volume (thousand m ³)		454	529	(75)	(16.5)

* Based on the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

Invested Amounts



Costs



Economic Effects Regarding Environmental Conservation Costs

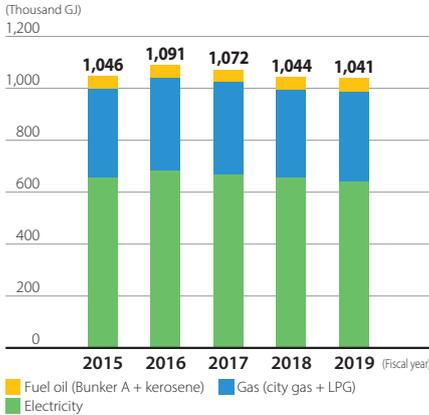
Details of effects	Amount (Million yen)	
Revenue	Economic income regarding recycling	1.8
Reduced cost	Reduced cost from energy saving	46.4
	Reduced cost from reduction of product containers	0.0
Total		48.2

Items	Amount (Million yen)
Total invested amount during the relevant period	9,469
Total R&D cost during the relevant period	22,876

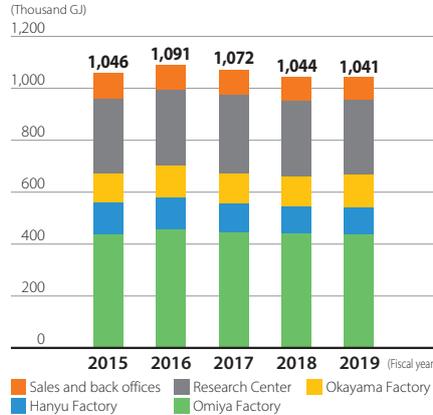
Resource Loading Volume

Energy

Energy Input (by Type)

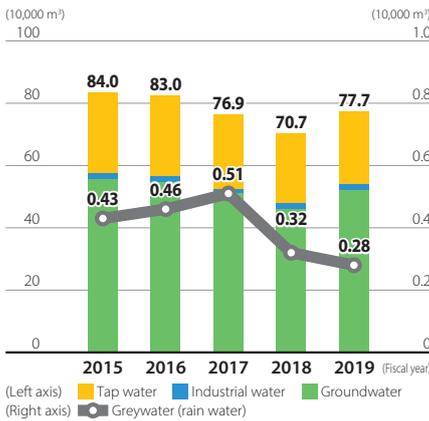


Energy Input (by Office)

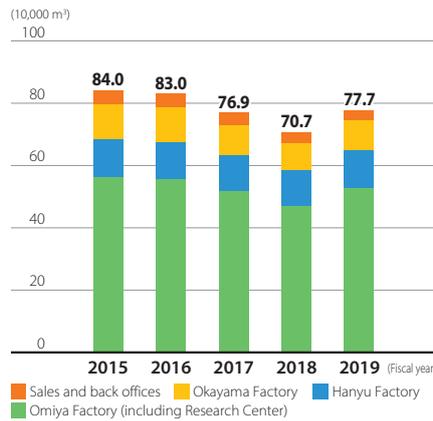


Water

Usage of Water (by Type)

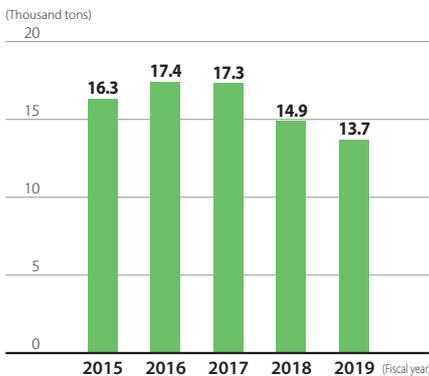


Usage of Water (by Office)

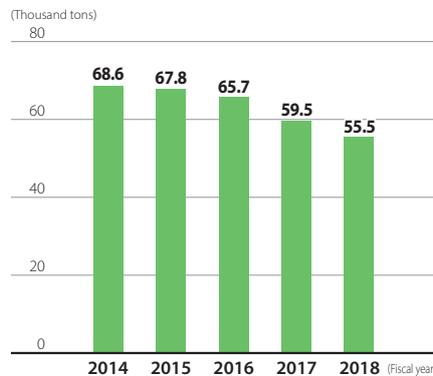


Raw Materials

Usage of Raw Materials

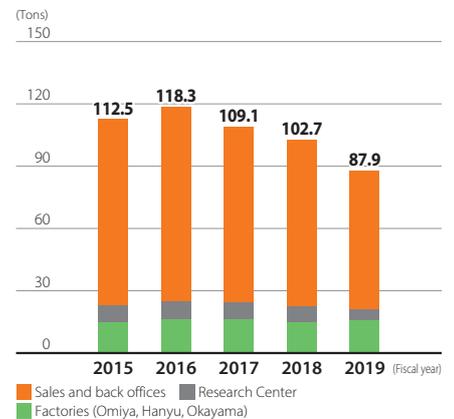


Usage of Materials (Four Materials Specified in the Containers and Packaging Recycling Act)



Copier Paper

Purchased Volume of Copier Paper



Chemical Substances

Transaction, Release, and Displacement Volumes of Chemical Substances Based on the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof—Omiya Factory (including Research Center)

No.	Chemical substance	Cabinet ordinance No.	Transaction volume	Release volume into the atmosphere	Release volume into public water	Displacement volume into the sewer	Release volume into soil	Decontamination treatment volume	Displacement volume to waste
1	Acetonitrile	013	54,000	11	0.0	410.0	0.0	0.0	54,000
2	Chloroform	127	2,400	2.7	0.0	47.0	0.0	0.0	2,300
3	Normal-hexane	392	1,600	13	0.0	1.6	0.0	0.0	1,600

(Unit: kg)

Transaction Volume of Specific Chemical Substances Based on the Ordinance on Living Environment Conservation in Saitama City (Article 74, Paragraph 2)—Omiya Factory (including Research Center)

No.	Chemical substance	Category of specific chemical substance	Transaction volume	Breakdown of the transaction volume		
				Usage	Produced volume	Transaction volume
4	N, N-Dimethylformamide	Class I Designated Chemical Substances (Item 232)	11,000	11,000	0	0
5	Hydrogen chloride (including hydrochloric acid)	Other specific chemical substances (Item 5)	670	670	0	0
6	Diethanolamine	Other specific chemical substances (Item 14)	35,000	35,000	0	0
7	Tetrahydrofuran	Other specific chemical substances (Item 24)	11,000	11,000	0	0
8	Methanol	Other specific chemical substances (Item 35)	3,300	3,300	0	0
9	Methyl iodide	Other specific chemical substances (Item 39)	510	510	0	0

No. 1 to 3 chemical substances are the same as specified in the notification that is based on the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof.

(Unit: kg)

Transaction Volume of Specific Chemical Substances Based on the Ordinance on Living Environment Conservation in Saitama Prefecture—Hanyu Factory

No.	Chemical substance	Category of specific chemical substance	Transaction volume	Breakdown of the transaction volume		
				Usage	Produced volume	Transaction volume
1	Hydrogen chloride (including hydrochloric acid)	Other specific chemical substances (Item 5)	13,000	13,000	0	0

(Unit: kg)

Various Emissions

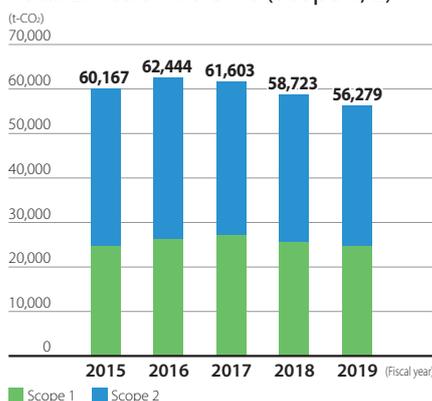
Factors used to calculate the CO₂ emission volume

Emission factors for CO₂ and energy are those from the Act on Promotion of Global Warming Countermeasures (List of calculation methods and emission factors on calculation, report, and publication methods)

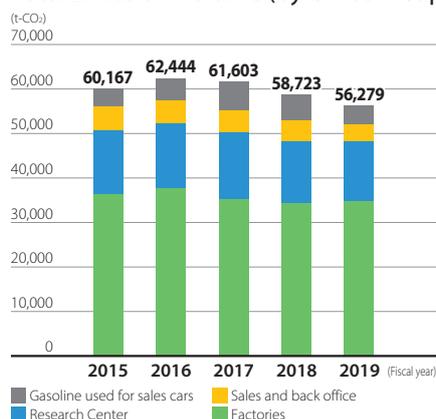
Electricity: Emission factors after adjustment for each electricity utility operator as specified by the Ministry of the Environment's paper on "Factors Related to Emissions by Electricity Utility Operator (for Calculating Carbon Dioxide Equivalents for Greenhouse Gas Emissions from Specified Emitters)";
 Bunker A: 2.710 t-CO₂/kL; Light fuel oil: 2.585 t-CO₂/kL; Propane gas: 2.999 t-CO₂/t; City gas: 2.244 t-CO₂/1000 m³; Gasoline 2.322 t-CO₂/kL; Non-industrial steam: 0.057 t-CO₂/GJ

CO₂

Total Emission Volume (Scope 1, 2)



Total Emission Volume (by Office in Japan)



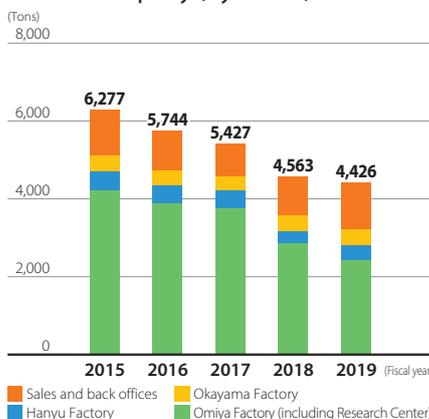
Calculation of CO₂ Emissions (Scope 3) at Value Chain (Scope of Data Collection: Taisho Pharmaceutical Holdings (Offices in Japan))

Category	CO ₂ emission volume (t-CO ₂)		Basic unit of emissions, etc.
	2018	2019	
Scope 1	25,766	24,841	Using global warming potential based on "Act on Promotion of Global Warming Countermeasures"
Scope 2	32,956	31,438	
Scope 3			
1 Purchased products & services	51,107	47,581	Calculated by aggregating each purchased raw material, then multiplying by the basic units
2 Capital goods	14,883	26,797	Calculated by multiplying the amount of capital investment in the fiscal year by the basic units
3 Fuel and energy-related activity not included in Scope 1 & 2	2,414	4,537	Calculated by multiplying the amount of used electricity/heat by the basic units for the amount of energy used
4 Transport, delivery (upstream)	9,704	8,894	Calculated by multiplying the delivery volume from suppliers to factories, between factories, and from factories to shipping destinations by the basic units
5 Waste of business activities including manufacturing	3,026	1,567	Calculated by categorizing the waste generated by factories and research centers by treatment, then multiplying the weight of treated waste by the basic units
6 Business trips	703	2,114	Calculated by multiplying the expense amount supplied to use aircraft (domestic and overseas) by the basic units
7 Commute of employees	2,065	2,434	Calculated by multiplying the expense amount supplied for commuting expenses for each mode of transportation by the basic units
8 Lease asset (upstream)	Outside scope of calculation	—	
9 Transport, delivery (downstream)	Outside scope of calculation	—	
10 Manufacturing of sold products	Outside scope of calculation	—	
11 Usage of sold products	Outside scope of calculation	—	
12 Waste of sold products	889	815	Calculated by multiplying the usage amount of each material at the time of application under the Containers and Packaging Recycling Act by the basic units
13 Lease assets (downstream)	Outside scope of calculation	—	
14 Franchise	Outside scope of calculation	—	
15 Investment	Outside scope of calculation	—	
Basic unit of CO ₂ emissions (Scope 3) (t-CO ₂ /Net sales (Million yen))	0.324	0.328	—
Basic unit of CO ₂ emissions (Overall) (t-CO ₂ /Net sales (Million yen))	0.548	0.523	—

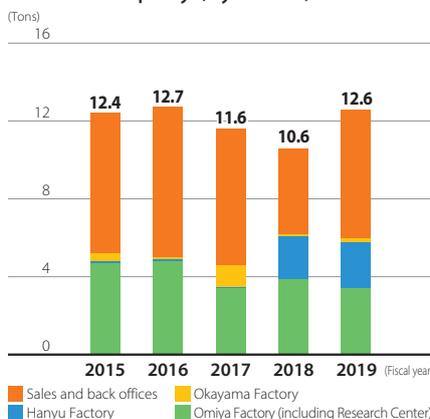
Basic units: Using a coefficient referenced from the Ministry of the Environment's Basic Guidelines on Accounting for Greenhouse Gas Emissions throughout the Supply Chain (Ver. 3.0)

Waste

Total Emission Volume— Whole Company (by Office)

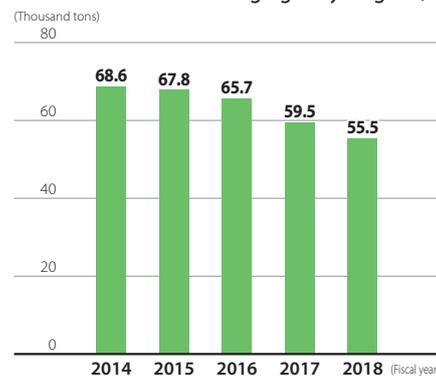


Final Landfill Disposal Volume— Whole Company (by Office)



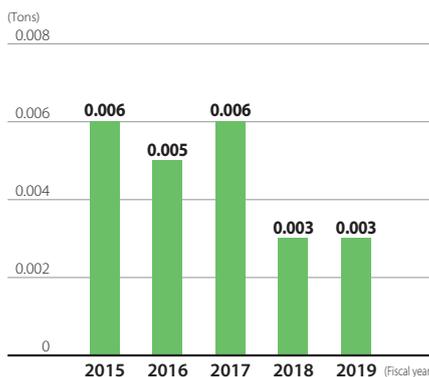
Data Associated with the Containers and Packaging Recycling Act

Usage of Materials (Four Materials Specified in the Containers and Packaging Recycling Act)

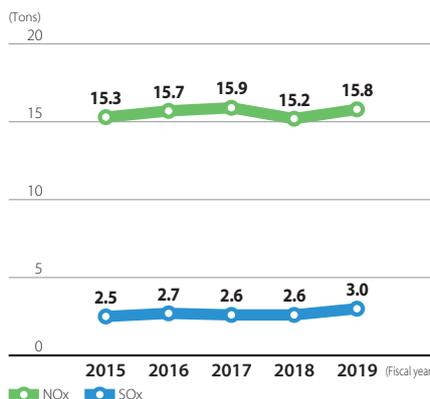


Emission into the Atmosphere

Chloroform— Production Division

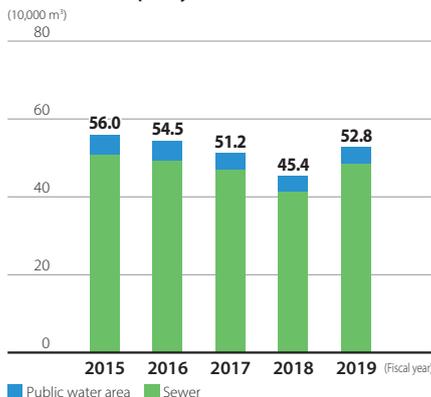


NO_x and SO_x Emission Volumes— Production and Research

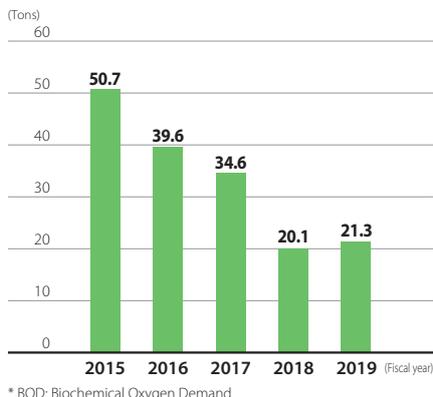


Water Quality

Total Emission Volume—Whole Company



BOD* Emission Volume—Production and Research



* BOD: Biochemical Oxygen Demand

PCB Waste

PCB Waste and PCB Devices in Use

	Storage	Devices in use
Reagent	—	—
Low-pressure capacitor	—	—
High-pressure capacitor	—	—
Fluorescent ballast	—	—
Mercury lamp ballast	—	—
High-pressure transformer	1 device (low density)	11 devices (low density)

Data Associated with Sales and Transport

Conversion factors used to calculate CO₂ and NO_x emission volumes from the usages of gasoline and light fuel oil

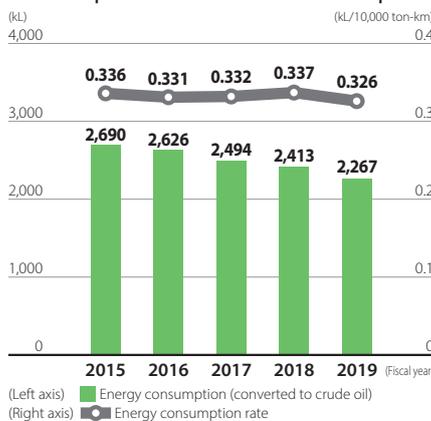
[CO₂ emission volume] Gasoline: 2.322 kgCO₂/L; Light fuel oil: 2.585 kgCO₂/L

(According to the Guidelines for Calculating CO₂ Emissions Caused by Energy in the Global Warming Countermeasures Planning System and Targeted Emission Volume Transaction System (Revised in March 2017) based on the Saitama Prefecture Ordinance to Promote Measures Against Global Warming)

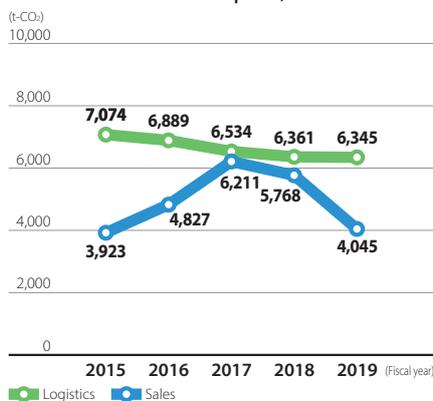
[NO_x emission volume] Gasoline: 8.2 kg/kL; Light fuel oil: 18.3 kg/kL

(According to the Environmental Activity Evaluation Program (Eco-Action 21), March 2001)

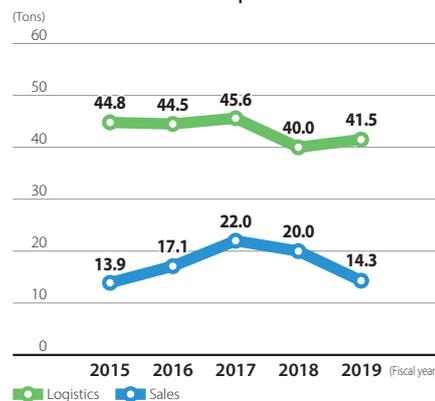
Energy Consumption and Specific Energy Consumption Associated with Transport



CO₂ Emission Volume Associated with Sales and Transport, etc.



NO_x Emission Volume Associated with Sales and Transport



Transported Quantity of Products by Transport Method

Fiscal year	2015		2016		2017		2018		2019	
	Transport amount (10,000 ton-km)	Percentage								
Total transport amount	8,000	100.0	7,934	100.0	7,507	100.0	7,169	100.0	6,953	100.0
Truck	5,770	72.1	5,708	71.9	5,451	72.6	5,078	70.8	4,910	70.6
Railway	748	9.4	868	10.9	754	10.0	684	9.5	761	10.9
Ship	1,482	18.5	1,358	17.1	1,302	17.3	1,406	19.6	1,281	18.4

Data by Office

❁ Measurement Results of Regulated Items in FY2019

Omiya Factory (including Research Center)

Regulated item		Reference value	Actual value
Atmosphere	NOx	Once-through boiler	—
		Water-tube boiler	Less than 130 ppm
		Suction-type cool and warm water generator	Less than 150 ppm
		Gas turbine	Less than 70 ppm
Water quality	Industrial sewage	Hydrogen-ion concentration (pH)	More than 5~Less than 9
		Biochemical oxygen demand	Less than 600 mg/L
		Suspended solids	Less than 600 mg/L
		Nitrogen	Less than 240 mg/L
		Phosphorus	Less than 32 mg/L

Hanyu Factory

Regulated item		Reference value	Actual value
Atmosphere	NOx	Once-through boiler	33~39 ppm
		Dust	—
Water quality	Industrial sewage	Hydrogen-ion concentration (pH)	More than 5.8~less than 8.6
		Biochemical oxygen demand	Less than 5 mg/L
		Suspended solids	Less than 10 mg/L
		Nitrogen	Less than 25 mg/L
		Phosphorus	Less than 3 mg/L

Okayama Factory

Regulated item		Reference value	Actual value
Atmosphere	NOx	Once-through boiler	50~100 ppm
		Dust	0.001~0.004 g/m ³ N
Water quality	Industrial sewage	Hydrogen-ion concentration (pH)	More than 5~Less than 9
		Biochemical oxygen demand	Less than 600 mg/L
		Suspended solids	Less than 600 mg/L
		Nitrogen	Less than 240 mg/L
		Phosphorus	Less than 32 mg/L

Data on Overseas Manufacturing Subsidiaries (Reference)

		PT. Taisho Pharmaceutical Indonesia Tbk	Hoepharma Holdings Sdn. Bhd.	Taisho Co., Ltd. Shanghai	Taisho Pharmaceutical (M) SDN. BHD.	Taisho Vietnam Co., Ltd.	Compañía Internacional de Comercio, S.A.P.I. de C.V. (CICSA)	UPSA	DHG
Energy consumption	Electricity (kWh)	3,039,023	3,079,842	1,028,820	637,803	638,694	1,374,240	32,449,653	26,257,028
	Heavy fuel oil (kL)	—	—	—	—	4	—	—	590
	Light fuel oil (kL)	—	—	249	—	0	—	4	38
	LPG (m ³)	142,844	—	—	—	6	4	—	23
	City gas (m ³)	—	—	—	95,065	430	—	2,271,053	—
Waste volume	Recycled volume (tons)	116,403	—	9,962	—	16	16	1,593	97
	Incineration disposal volume (tons)	—	83	480	—	—	43	1,510	184
	Landfill disposal volume (tons)	81,360	—	—	—	—	528	—	—
Sewage water quality	Chemical oxygen demand (mg/L)	62~101	33~92	35~390	0~227	62~126	—	0~33	20~34
	Biochemical oxygen demand (mg/L)	29~73	11~29	—	0~66	27~46	—	0~14	9~19