

ENVIRONMENTAL PERFORMANCE DATA

Environmental Accounting

Mazda is carefully assessing the costs and benefits of its environmental activities and is working constantly to improve their efficiency.

Data collection period: April 2020 through March 2021

Basis of data collection: Calculated according to Mazda's own guidelines in line with Environmental Accounting Guidelines.

Boundary of data collection: Mazda Motor Corporation; 21 domestic & 14 overseas consolidated Group companies; eight domestic & five overseas equity-method Group companies

Environmental Protection Costs

(million yen)

Category	Major activities	Mazda unconsolidated			Mazda Group			
		Investment	Cost	Total	Investment	Cost	Total	
Business area	Preventing pollution	Conforming to legal limits for air and water pollution, odor abatement, etc.	1,546	1,870	3,416	1,997	2,487	4,484
	Protecting the global environment	Preventing global warming, conserving energy, preventing destruction of the ozone layer, and other environmental protection activities	3,167	2,184	5,350	3,342	2,361	5,703
	Recycling resources	Effective resource use, recycling waste, processing and disposing of waste	161	1,329	1,490	189	3,125	3,314
Upstream/downstream	Container recovery, recovery of end-of-life vehicle bumpers	0	142	142	0	150	150	
Management activity	Employee environmental education, creating and operating environmental management systems, monitoring and measurement of environmental impact, other activities	1	946	947	1	1,423	1,425	
Research and development	R&D for products, production methods and distribution, to contribute to reduced environmental impact	1,195	41,129	42,324	1,290	42,709	43,999	
Social activities	Greening, beautification, and environmental improvement; support of community residents and organizations; information disclosure; and other activities	0	36	36	0	65	65	
Environmental Damage	-	0	0	0	0	1	1	
Total		6,070	47,636	53,705	6,819	52,321	59,141	

Overall Environmental Protection Effects

Category			Mazda unconsolidated		Mazda Group	
			Environmental protective effect		Economic effect (million yen)	Economic effect (million yen)
Protecting the global environment	Global warming prevention	Production	CO ₂ emissions volume (on unit sales basis)	16.2 t-CO ₂ /100 million yen	-	-
		Distribution	Annual shipping volume	454,350 thousand (ton-km/year)	-	-
Recycling resources	Effective use of resources, recycling	Shell sand		9,732 t (year)	28	1,033
		Steel scrap		18,359 t (year)	1,005	
Upstream/downstream	Product recycling	Number of discarded bumpers collected		46,515 (bumpers/year)	-	21
		Metals		79,194 t (year)	1,618	
Other	Sale of items with commercial value	Paint thinner, effluent		550 t (year)		
		Empty drums, wheels, discarded tires		16,103 (units/year)	30	1,648
		Recovered sand, plastics, cardboard scraps		5,476 t (year)		
Total					2,681	2,702

Boundary of data collection

Mazda Motor Corporation

Consolidated Group companies

21 domestic companies: Manufacturing companies: Mazda Ace Co., Ltd., Mazda Logistics Co., Ltd., Kurashiki Kako Co., Ltd., Mazda Engineering & Technology Co., Ltd., Sales companies: Mazda Chuhan Co., Ltd., Hakodate Mazda Co., Ltd., Tohoku Mazda Co., Ltd., Fukushima Mazda Co., Ltd., Kitakanto Mazda Co., Ltd., Koushin Mazda Co., Ltd., Kanto Mazda Co., Ltd., Shizuoka Mazda Co., Ltd., Tokai Mazda Sales Co., Ltd., Hokuriku Mazda Co., Ltd., Keiji Mazda Co., Ltd., Kansai Mazda Co., Ltd., Nishi Shikoku Mazda Co., Ltd., Kyushu Mazda Co., Ltd., Minami Kyushu Mazda Co., Ltd., Okinawa Mazda Sales Co., Ltd., Parts sales company: Mazda Parts Co., Ltd.

14 overseas companies: Mazda Canada Inc., Mazda Motor Manufacturing de Mexico, S.A. de C.V., Mazda Motors (Deutschland) GmbH, Mazda Motor Europe GmbH, Mazda Motors UK Ltd., Mazda Motor Russia.OOO, Mazda Australia Pty Ltd., Mazda Motors of New Zealand Ltd., Mazda Sales (Thailand) Co., Ltd., Mazda Powertrain Manufacturing (Thailand) Co., Ltd., Mazda Motor (China) Co., Ltd, Mazda Motor Taiwan Co., Ltd., Mazda Southern Africa (Pty) Ltd., Mazda De Colombia S.A.S.

Equity-method Group companies

8 domestic companies: Toyo Advanced Technologies Co., Ltd., Japan Climate Systems Corporation, Yoshiwa Kogyo Co., Ltd., Sanfrece Hiroshima FC Co., Ltd., Mazda Processing Chugoku Co., Ltd., Mazda Credit Inc., MCM Energy Service Co., Ltd., Mazda Parts Sales Hiroshima Co., Ltd.

5 overseas companies: Mazda Sollers Manufacturing Rus LLC, AutoAlliance (Thailand) Co., Ltd., Changan Mazda Automobile Co., Ltd., Changan Mazda Engine Co., Ltd., FAW Mazda Motor Sales Co., Ltd.

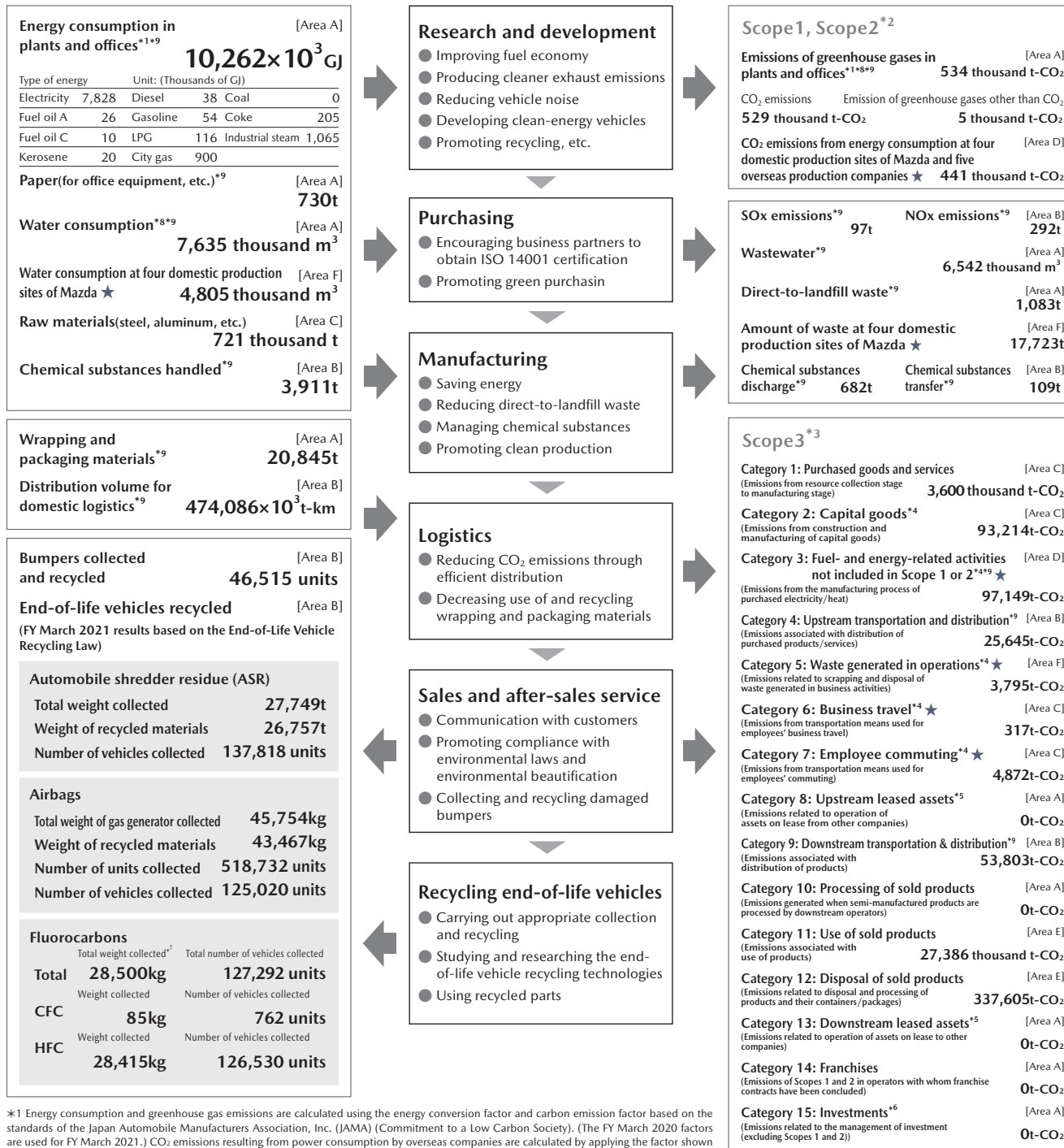
Mazda's Corporate Activities and Impact on the Environment

Results of FY March 2021

Mazda tracks ecological data to help reduce the environmental impact of its corporate activities in all areas.

(For the period and boundary (areas A to F) of data collection, please see p.127.)

★ Subject to independent third-party verification (see p.134.)



*1 Energy consumption and greenhouse gas emissions are calculated using the energy conversion factor and carbon emission factor based on the standards of the Japan Automobile Manufacturers Association, Inc. (JAMA) (Commitment to a Low Carbon Society). (The FY March 2020 factors are used for FY March 2021.) CO₂ emissions resulting from power consumption by overseas companies are calculated by applying the factor shown in the IEA Emission Factors 2019 issued by International Energy Agency (IEA).

*2 Scope 1: Direct emissions from consumption of fuels and industrial processes; Scope 2: Emissions associated with consumption of purchased heat/electricity (indirect emissions from energy consumption)

*3 Scope 3: Other indirect emissions are calculated using Mazda's own calculation method, based on the Ministry of the Environment's emission basic unit database (ver. 2.3, released in December 2017) for organizations to use when calculating greenhouse effect gas emissions generated throughout their supply chains. (Source: https://www.env.go.jp/earth/ondanka/supply_chain/gvc/files/tools/GuideLine_ver2.3.pdf)

*4 CO₂ emissions are calculated based on the Ministry of the Environment's CO₂ Emission Intensity Database (Ver.3.1) released in March 2021 for organizations to use in calculating greenhouse gas emissions from their supply chains. (Source: https://www.env.go.jp/earth/ondanka/supply_chain/gvc/files/tools/DB_V3-1.xls)

*5 Categories 8 and 13 are included in the greenhouse gas emissions from plants and offices.

*6 Category 15 for group companies is included in the greenhouse gas emissions from plants and offices.

*7 The total figure is rounded and may not match the sum of individual items.

*8 Including figures assured by a third-party (see p.134).

*9 Figures for consolidated Group companies and equity-method Group companies are prorated based on the percentage equity stake held by Mazda.

Period of Data Collection: FY March 2021 (April 2020–March 2021)

Boundary of Data Collection Area A: Mazda Motor Corporation, 22 domestic consolidated Group companies and eight domestic equity-method Group companies, and 14 overseas consolidated Group companies and five overseas equity-method Group companies.
Area B: Mazda Motor Corporation, 22 domestic consolidated Group companies and eight domestic equity-method Group companies.
Area C: Mazda Motor Corporation.
Area D: Mazda Motor Corporation, four domestic production sites and five overseas production companies (two consolidated Group companies and three equity-method Group companies).
Area E: Domestic and major sales regions (North America, Europe and China)
Area F: Four domestic production sites of Mazda (Head Office (Hiroshima), Miyoshi Plant, Hofu Plant (Nishinoura District), and Hofu Plant (Nakanoseki District) (including non-manufacturing areas such as product development))

Mazda Motor Corporation Hiroshima Head Office, Hiroshima Plant, Miyoshi Plant, Hofu Plant (Nishinoura district), Hofu Plant (Nakanoseki district), Tokyo Office, Osaka Fleet Sales Gr., Mazda R&D Center Yokohama, Hokkaido Kenbuchi Proving Ground, Hokkaido Nakasatsunai Proving Ground, Mine Proving Ground, Parts Centers (2 sites), Mazda Technical Service Centers (6 sites), Mazda Training Centers (2 sites), Mazda Saka Studio, Mazda Education Center, Mazda Hospital

Consolidated Group companies

22 domestic companies Manufacturing companies: Mazda Ace Co., Ltd., Mazda Logistics Co., Ltd., Kurashiki Kako Co., Ltd., Mazda Engineering & Technology Co., Ltd.
Sales companies: Mazda Chuhan Co., Ltd., Mazda Motor International, Hakodate Mazda Co., Ltd., Tohoku Mazda Co., Ltd., Fukushima Mazda Co., Ltd., Kitakanto Mazda Co., Ltd., Koushin Mazda Co., Ltd., Kanto Mazda Co., Ltd., Shizuoka Mazda Co., Ltd., Tokai Mazda Sales Co., Ltd., Hokuriku Mazda Co., Ltd., Keiji Mazda Co., Ltd., Kansai Mazda Co., Ltd., Nishi-Shikoku Mazda Co., Ltd., Kyushu Mazda Co., Ltd., Minami-Kyushu Mazda Co., Ltd., Okinawa Mazda Sales Co., Ltd.
Parts sales company: Mazda Parts Co., Ltd.

14 overseas companies Mazda Canada, Inc., Mazda Motor Manufacturing de Mexico S.A. de C.V., Mazda Motors (Deutschland) GmbH, Mazda Motor Europe GmbH, Mazda Motors UK Ltd., Mazda Motor Russia, OOO, Mazda Australia Pty Ltd., Mazda Motors of New Zealand Ltd., Mazda Sales (Thailand) Co., Mazda Powertrain Manufacturing (Thailand) Co., Ltd., Mazda Motor (China) Co., Ltd., Mazda Motor Taiwan Co., Ltd., Mazda Southern Africa (Pty) Ltd., Mazda de Colombia S.A.S.

Equity-Method Group Companies

8 domestic companies Toyo Advanced Technologies Co., Ltd., Japan Climate Systems Corporation, Yoshiwa Kogyo Co., Ltd., Sanfrece Hiroshima FC, Mazda Processing Chugoku Co., Ltd., Mazda Credit, Inc., MCM Energy Service Co., Ltd., Mazda Parts Sales Hiroshima Co., Ltd.

5 overseas companies Mazda Sollers Manufacturing Rus LLC, AutoAlliance (Thailand) Co., Ltd., Changan Mazda Automobile Co., Ltd., Changan Mazda Engine Co., Ltd., FAW Mazda Motor Sales Co., Ltd.

FY March 2021 Data on Water and Atmosphere

Water Pollutants

Wastewater Drainage Destination: Enko River and Kaita Bay

Site	Water Pollutants	Unit	Regulation	Actual		
				Max.	Min.	Avg.
Hiroshima Plant	pH (freshwater)	—	5.8~8.6	7.8	6.5	7.1
	pH (seawater)	—	5.5~9.0	7.5	6.8	7.2
	BOD	mg/L	160	2.7	ND	<1.3
	COD	mg/L	20	1.2	1.6	4.4
	SS	mg/L	200	1.6	ND	<4.9
	Oil	mg/L	5	0.7	ND	<0.5
	Fluorine (freshwater)	mg/L	8	0.2	ND	<0.1
	Fluorine (seawater)	mg/L	15	8.5	0.1	2.9
	Copper	mg/L	3	0.01	ND	<0.01
	Zinc	mg/L	2	0.73	0.02	0.15
	Soluble iron	mg/L	10	0.2	ND	<0.1
	Soluble manganese	mg/L	10	1	ND	<0.2
	Chromium	mg/L	2	0.1	ND	<0.02
	Selenium	mg/L	0.1	0.004	ND	<0.002
	Total nitrogen	mg/L	120	11	1.5	4.8
	Total phosphorus	mg/L	16	3.2	ND	<0.4
	Coliform groups	colonies/cm ³	3,000	600	ND	<43
	Boron (freshwater)	mg/L	10	0.4	ND	<0.2
	Boron (seawater)	mg/L	230	3.3	0.1	1.7

The following substances were not detected: cadmium, cyanogen, organic phosphorus, lead, hexavalent chromium, arsenic, mercury, alkyl mercury, PCBs, trichloroethylene, tetrachloroethylene, dichloromethane, carbon tetrachloride, 1,2-dichloroethane, 1,1-dichloroethylene, 1,2-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,3-dichloropropene, thiuram, simazine, thiobencarb, benzene, 1,4-dioxane and phenol.

Wastewater Drainage Destination: Basen River

Site	Water Pollutants	Unit	Regulation	Actual		
				Max.	Min.	Avg.
Miyoshi Plant	pH	—	5.8~8.6	7.6	7.2	7.4
	BOD	mg/L	90	5.7	1.1	3.1
	SS	mg/L	90	1.2	2	6.5
	Soluble manganese	mg/L	10	0.2	ND	<0.1
	Total nitrogen	mg/L	120	2.4	2.4	2.4
	Coliform groups	colonies/cm ³	3,000	700	ND	<13
	Ammonia, ammonium, nitrous acid, and nitrous acid compounds	mg/L	100	2.1	2.1	2.1

The following substances were not detected: cadmium, cyanogen, organic phosphorus, lead, hexavalent chromium, arsenic, mercury, alkyl mercury, PCBs, trichloroethylene, tetrachloroethylene, dichloromethane, carbon tetrachloride, 1,2-dichloroethane, 1,1-dichloroethylene, 1,2-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,3-dichloropropene, thiuram, simazine, thiobencarb, benzene, selenium, fluorine, boron, 1,4-dioxane, oil, total phosphorus, phenol, copper, zinc, soluble iron and chromium.

Wastewater Drainage Destination: Oumi Bay

Site	Water Pollutants	Unit	Regulation	Actual		
				Max.	Min.	Avg.
Nishinoura District, Hofu Plant	pH	—	5.0~9.0	7.2	6.1	6.9
	COD	mg/L	50	11.6	2.1	7.1
	SS	mg/L	40	2.1	0.5	1.3
	Oil	mg/L	2	0.5	0.5	0.5
	Zinc	mg/L	2	0.59	0.17	0.4
	Soluble manganese	mg/L	10	0.3	ND	<0.2
	Total nitrogen	mg/L	120	8	0.6	2.9
	Total phosphorus	mg/L	16	3.8	0.3	1.9
	Coliform groups	colonies/cm ³	3,000	120	ND	<60
	Boron	mg/L	230	1.2	1.2	1.2
	Fluorine	mg/L	15	5.6	2.6	4.1
	Ammonia, ammonium, nitrous acid, and nitrous acid compounds	mg/L	100	3.0	0.33	1.7

The following substances were not detected: cadmium, cyanogen, organic phosphorus, lead, hexavalent chromium, arsenic, mercury, alkyl mercury, PCBs, trichloroethylene, tetrachloroethylene, dichloromethane, carbon tetrachloride, 1,2-dichloroethane, 1,1-dichloroethylene, 1,2-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,3-dichloropropene, thiuram, simazine, thiobencarb, benzene, selenium, 1,4-dioxane, phenol, copper, soluble iron and chromium.

Wastewater Drainage Destination: Oumi Bay

Site	Water Pollutants	Unit	Regulation	Actual		
				Max.	Min.	Avg.
Nakanoseki District, Hofu Plant	pH	—	5.0~9.0	7.7	6.1	7.2
	COD	mg/L	50	6.2	4.0	4.9
	SS	mg/L	40	1.2	1	2.6
	Zinc	mg/L	2	0.25	0.1	0.18
	Soluble manganese	mg/L	10	1.7	ND	<0.9
	Total nitrogen	mg/L	120	14.8	2.0	6.5
	Total phosphorus	mg/L	16	1.5	0.08	0.7
	Coliform groups	colonies/cm ³	3,000	2	ND	<1
	Ammonia, ammonium, nitrous acid, and nitrous acid compounds	mg/L	100	7.5	3.9	5.7

The following substances were not detected: cadmium, cyanogen, organic phosphorus, lead, hexavalent chromium, arsenic, mercury, alkyl mercury, PCBs, trichloroethylene, tetrachloroethylene, dichloromethane, carbon tetrachloride, 1,2-dichloroethane, 1,1-dichloroethylene, 1,2-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,3-dichloropropene, thiuram, simazine, thiobencarb, benzene, selenium, fluorine, boron, 1,4-dioxane, oil, phenol, copper, soluble iron and chromium.

Atmospheric Pollutants

Site	Atmospheric Pollutants	Unit	Regulation	Actual (Max.)	
Hiroshima Plant	NOx	Boilers	150	54	
			250	120	
		Drying ovens	230	73	
			180	49	
		Diesel engines	950	630	
	200		84		
	Heating furnaces	180	46		
		150	93		
	Miyoshi Plant	NOx	Boilers	0.25	0.011
				0.1	0.0016
Drying ovens			0.4	0.0019	
			0.35	0.0029	
Diesel engines			0.2	0.0063	
		0.15	0.044		
Dust		Boilers	0.4	0.017	
			0.20	0.063	
		Melting furnaces	0.10	0.002	
			0.10	0.018	
	Heating furnaces	0.4	0.0042		
0.25		<0.005			
Nishinoura District, Hofu Plant	NOx	K-value regulation	7	3.8	
			700	315	
		Painting facilities	400	110	
			250	150	
		Diesel engines	950	620	
	Dust		Boilers	0.30	0.012
		Diesel engines	0.10	0.078	
	SOx	Boilers	150	80	
			130	110	
		Drying ovens	230	48	
Boilers			0.10	0.003	
Dust		Drying ovens	0.35	0.003	
	0.30	0.004			
VOC	K-value regulation	—	4.5	0.149	
		Total pollutant load control	m ³ N/h	17.59	0.507
	Painting facilities	700	270		
		Melting furnaces	180	34	
	Nakanoseki District, Hofu Plant	Dust	Heating furnaces	0.25	0.002
0.20				0.002	
Melting furnaces		0.20	0.05		
		SOx	K-value regulation	—	4.5
Total pollutant load control			m ³ N/h	8.37	0.001

Volume of PRTR-designated Pollutants Emitted and Transferred in FY March 2021

(Items marked with an asterisk (*) are Class 1 designated chemical substances of which 500 kg/year or more are handled.)

Hiroshima Plant

Unit: (kg/year)

Substance No.	Substance group	Amount handled	Volume emitted			Amount consumed	Amount disposed	Amount transferred Waste products	Amount recycled	
			Air	Water	Soil					
1	Water-soluble zinc compounds	36,178	0	579	0	579	31,619	3,980	0	0
53	Ethyl benzene	93,074	25,435	0	0	25,435	33,776	25,451	0	8,412
80	Xylene	358,592	129,559	0	0	129,559	140,894	64,611	0	23,528
87	Chromium and trivalent chromium compounds	31,065	0	0	0	0	30,467	0	598	0
88*	Hexavalent chromium compounds	1,458	0	0	0	0	860	598	0	0
258	1,3,5,7-tetraazetoricyclo [3.3.1.1 ^{3,7}] decane	2,610	0	0	0	0	0	2,610	0	0
277	Triethylamine	132,776	797	0	0	797	0	131,979	0	0
296	1,2,4-trimethylbenzene	198,006	57,528	0	0	57,528	87,703	52,775	0	0
297	1,3,5-trimethylbenzene	23,674	10,680	0	0	10,680	1,246	11,110	0	638
300	Toluene	615,962	97,845	0	0	97,845	290,653	187,837	0	39,627
309*	Nickel compounds	3,797	0	456	0	456	1,310	0	2,031	0
349	Phenol	20,940	0	1	0	1	0	20,939	0	0
355	Bis (2-ethylhexyl) phthalate	1,463	0	0	0	0	1,419	0	44	0
374	Hydrogen fluoride and its water-soluble salts	2,955	0	473	0	473	0	2,482	0	0
392	n-Hexane	113,554	284	0	0	284	97,463	15,807	0	0
400*	Benzene	22,380	28	0	0	28	17,456	4,896	0	0
411*	Formaldehyde	1,992	603	0	0	603	0	1,389	0	0
412	Manganese and its compounds	35,701	0	289	0	289	33,710	0	1,652	50
438	Methylnaphthalene	5,141	26	0	0	26	0	5,115	0	0
448	Diisocyanate (methylene-bis [4,1-phenylene])	179,594	0	0	0	0	0	179,594	0	0
453	Molybdenum and its compounds	1,207	0	0	0	0	841	0	53	313
302	Naphthalene	12,738	64	0	0	64	0	12,674	0	0
Total		1,894,857	322,849	1,798	0	324,647	769,417	723,847	4,378	72,568

Miyoshi Plant

Substance No.	Substance group	Amount handled	Volume emitted			Amount consumed	Amount disposed	Amount transferred Waste products	Amount recycled	
			Air	Water	Soil					
53	Ethyl benzene	1,963	0	0	0	0	1,963	0	0	
80	Xylene	8,337	1	0	0	1	0	8,336	0	0
296	1,2,4-trimethylbenzene	5,415	1	0	0	1	0	5,414	0	0
300	Toluene	23,563	8	0	0	8	0	23,555	0	0
392	n-Hexane	3,667	9	0	0	9	0	3,658	0	0
400*	Benzene	873	1	0	0	1	0	872	0	0
438	Methylnaphthalene	2,416	12	0	0	12	0	2,404	0	0
Total		46,234	32	0	0	32	0	46,202	0	0

Nishinoura District, Hofu Plant

Substance No.	Substance group	Amount handled	Volume emitted			Amount consumed	Amount disposed	Amount transferred Waste products	Amount recycled	
			Air	Water	Soil					
1	Water-soluble zinc compounds	11,096	0	178	0	178	9,698	1,220	0	0
53	Ethyl benzene	97,018	57,304	0	0	57,304	28,558	11,156	0	0
80	Xylene	190,358	44,263	0	0	44,263	119,098	11,390	0	15,607
296	1,2,4-trimethylbenzene	133,931	39,367	0	0	39,367	74,082	11,256	0	9,226
297	1,3,5-trimethylbenzene	13,851	8,648	0	0	8,648	855	2,067	0	2,281
300	Toluene	432,835	163,913	0	0	163,913	243,822	17,570	0	7,530
309*	Nickel compounds	2,174	0	261	0	261	750	0	1,163	0
392	n-Hexane	84,077	211	0	0	211	82,980	886	0	0
400*	Benzene	14,976	19	0	0	19	14,799	158	0	0
412	Manganese and its compounds	3,042	0	160	0	160	1,937	0	916	29
Total		983,358	313,725	599	0	314,324	576,579	55,703	2,079	34,673

Nakanoseki District, Hofu Plant

(No applicable chemical substances subject to reporting. (The volume of the PRTR-designated groups' substances handled is less than the designated volume subject to reporting.)

Company Total

Substance No.	Substance group	Amount handled	Volume emitted			Amount consumed	Amount disposed	Amount transferred Waste products	Amount recycled	
			Air	Water	Soil					
Total		2,945,330	636,614	2,397	0	639,011	1,345,996	846,625	6,457	107,241