

EPEAT 4.7.2.1 Public disclosure of key environmental aspects

The following data shows key environmental aspects in the Hirooka office having complete responsibility for the design and manufacture of printers and scanners. (Fiscal Year: From April to next March)

a) Greenhouse Gas (GHG) Emissions

Greenhouse gas emissions (Thousand t-CO ₂ e)	FY2021	FY2022
Scope 1	11.47	8.67
Scope 2	0*	0*
Total	11.47	8.67

CO₂ conversion factor of greenhouse gas emissions

♦ Electric power: Disclose emissions at Market-base. In Japan, we use the adjusted emissions factors for the load serving entities (i.e., utilities) from which our sites purchase electricity, pursuant to Load Serving Entity Emission Factors announced by the Ministry of Environment and the Ministry of Economy, Trade, and Industry. The emission factor is set to zero for the amount of renewable electricity certificates and J-Credits utilized.

*April 2021: Switch to 100 % renewable electricity completed

♦ Fuel: The factors announced by the IPCC in 2006 were used for both domestic and overseas data.

♦ GHGs other than CO₂: Equivalent values were calculated based on 100-year GWP values in the Fifth Assessment Report of the IPCC.

Third-party verification of GHG emissions

Scopes 1 and 2 GHG emissions are verified.

b) Water

Water withdrawal (thousand m ³)	FY2021	FY2022
Municipal water	397	434
Ground water	206	209
Total	603	644
Discharge (thousand m ³)	FY2021	FY2022
Total water discharge (sewage)	563	601
Recycled water	194	202
(Ratio)	(24.3%)	(23.9%)
Reused water	0	0
(Ratio)	(0%)	(0%)

♦ Recycled ratio=recycled water / (water withdrawal "Total" + recycled water)

* Totals do not add up in some cases due to rounding off of fractions.

Third-party verification of water

Water withdrawal is verified.

Quality of water discharge

The following table shows the water quality measurement values of the main substances in the five drainage ports for manufacturing process and living use in the Hirooka office. (No.2, 3, 5, 8, 9)

Sewage line	Item	Unit	Measurement value (average)	
			FY2021	FY2022
No.2	n-hexane (mineral oil)	mg/l	ND	ND
	n-hexane (animal/plant oil)	mg/l	5.9	5.1
No.3	BOD	mg/l	21.8	13.4
	SS	mg/l	20	19
	n-hexane (mineral oil)	mg/l	ND	ND
	n-hexane (animal/plant oil)	mg/l	0.9	0.6
	Cu	mg/l	ND	ND
	Zn	mg/l	0.0	0.0
	Fe	mg/l	0.0	0.0
	Mn	mg/l	ND	ND
	Cr	mg/l	ND	ND
	T-P	mg/l	1.3	1.1
	Pb	mg/l	ND	ND
	Fluorine	mg/l	0.4	0.3
	Ammonia compound, Nitrous acid, Nitric acid	mg/l	9.5	11.5
	I2 (amount iodine consumed)	mg/l	2.8	0.6
No.5	n-hexane (mineral oil)	mg/l	ND	ND
	n-hexane (animal/plant oil)	mg/l	3.39	3.45
No.8	BOD	mg/l	0.7	0.6
	SS	mg/l	0.4	0.0
	n-hexane (mineral oil)	mg/l	ND	ND
	n-hexane (animal/plant oil)	mg/l	ND	ND
	Cu	mg/l	ND	ND
	Zn	mg/l	0.1	0.1
	Fe	mg/l	0.0	0.0
	Mn	mg/l	ND	ND
	Cr	mg/l	ND	ND
	T-P	mg/l	ND	ND
	Pb	mg/l	ND	ND
	Fluorine	mg/l	0.0	0.0
	Ammonia compound, Nitrous acid, Nitric acid	mg/l	0.5	0.6
	I2 (amount iodine consumed)	mg/l	0.8	0.5
No.9	BOD	mg/l	96.7	121.8
	SS	mg/l	97.0	113.3
	n-hexane (mineral oil)	mg/l	ND	ND

	n-hexane (animal/plant oil)	mg/l	3.7	3.3
	Cu	mg/l	ND	0.0
	Zn	mg/l	0.1	0.1
	Fe	mg/l	0.1	0.1
	Mn	mg/l	ND	ND
	Cr	mg/l	ND	ND
	T-P	mg/l	6.2	7.2
	Pb	mg/l	ND	ND
	Fluorine	mg/l	0.0	ND
	Ammonia compound, Nitrous acid, Nitric acid	mg/l	46.0	57.0
	I2 (amount iodine consumed)	mg/l	19.4	21.9
No.10	BOD	mg/l	4.4	4.5
	SS	mg/l	4.0	3.8
	n-hexane (mineral oil)	mg/l	ND	ND
	n-hexane (animal/plant oil)	mg/l	ND	ND
	Cu	mg/l	ND	ND
	Zn	mg/l	0.0	ND
	Fe	mg/l	ND	ND
	Mn	mg/l	0.0	0.0
	Cr	mg/l	ND	ND
	T-P	mg/l	0.1	0.1
	Pb	mg/l	ND	ND
	Fluorine	mg/l	1.0	1.0
	Ammonia compound, Nitrous acid, Nitric acid	mg/l	38.4	37.8
	I2 (amount iodine consumed)	mg/l	0.4	0.7
No.11	BOD	mg/l	97.2	142.9
	SS	mg/l	63.2	107.7
	n-hexane (mineral oil)	mg/l	ND	ND
	n-hexane (animal/plant oil)	mg/l	1.7	1.9
	Cu	mg/l	ND	0.0
	Zn	mg/l	0.0	0.0
	Fe	mg/l	0.0	0.0
	Mn	mg/l	ND	ND
	Cr	mg/l	ND	ND
	T-P	mg/l	4.7	6.3
	Pb	mg/l	ND	ND
	Fluorine	mg/l	ND	0.0
	Ammonia compound, Nitrous acid, Nitric acid	mg/l	36.4	109.7
	I2 (amount iodine consumed)	mg/l	21.3	26.7
No.12	BOD	mg/l	141.2	190.3
	SS	mg/l	93.4	136.7

n-hexane (mineral oil)	mg/l	ND	ND
n-hexane (animal/plant oil)	mg/l	1.8	1.5
Cu	mg/l	ND	0.0
Zn	mg/l	0.0	0.0
Fe	mg/l	ND	0.0
Mn	mg/l	ND	ND
Cr	mg/l	ND	ND
T-P	mg/l	6.9	8.7
Pb	mg/l	ND	ND
Fluorine	mg/l	ND	0.0
Ammonia compound, Nitrous acid, Nitric acid	mg/l	54.1	169.0
I2 (amount iodine consumed)	mg/l	31.1	31.0

ND: No Detection (Below the detection limit)

c) Waste

Waste (tonnes)	FY2021	FY2022
All solid waste generated	2,824	2,661
Reused or recycled	2,824	2,661
Landfilled	11	10
Sent to waste-to-energy	631	467
Incineration	47	45
Other disposal facilities (material recycle)	2,135	2,139
Discards that have been reduced (from a defined base year: previous year)	-247	163

d) Toxics

FY2022 PRTR data (kg)

No.	Name	Emissions to atmosphere	Transfer to waste	Removed/ consumed
374	Hydrogen fluoride and its water-soluble salts	0	0	25,490

FY2021 PRTR data (kg)

No.	Name	Emissions to atmosphere	Transfer to waste	Removed/ consumed
374	Hydrogen fluoride and its water-soluble salts	0	0	17,847
438	Methylnaphthalene	6	0	1,227
20	2-aminoethanol	0	198	0

The calculation and protocols used are the Japanese Pollutant Release and Transfer Register (PRTR).
More details can be found on: <http://www.env.go.jp/en/chemi/prtr/about/index.html>