

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 Emissions

Greenhouse gas emissions (t-CO ₂ e)	FY2016	FY2017
Scope 1	0.78	0.22
Scope 2	26.64	28.60
Total	27.43	28.82

● CO₂ conversion factor of greenhouse gas emissions

Electricity: The data for Japan has been adjusted based on electric utility conversion factors (for calculating the greenhouse gas emissions of specified emitters). For overseas data, we used the emissions factors for each country contained in CO₂ Emissions from Fuel Combustion available from the International Energy Agency (IEA).

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

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

* Past data was revised due to changes in emissions factors and targeted GHG substances.

● Third-party verification of greenhouse gas (GHG) emissions

Scopes 1 and 2 GHG emissions of FY2017 are verified.

b) Water

Water withdrawal (thousand m ³)	FY2016	FY2017
Municipal water	140	178
Ground water	246	225
Total	386	403
Discharge (thousand m ³)	FY2016	FY2017
Total water discharge (sewage)	377	440
Recycled water	165	143
(Ratio)	(43.8%)	(32.5%)
Reused water	0	0
(Ratio)	(0%)	(0%)

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)	
			FY2016	FY2017
No.2	n-hexane (mineral oil)	mg/l	ND	ND
	n-hexane (animal/plant oil)	mg/l	4.0	5.3
No.3	BOD	mg/l	21.1	24.4
	SS	mg/l	21.3	18.3
	n-hexane (mineral oil)	mg/l	ND	ND
	n-hexane (animal/plant oil)	mg/l	1.8	1.8
	Cu	mg/l	ND	ND
	Zn	mg/l	0.02	0.003
	Fe	mg/l	0.023	0.07
	Mn	mg/l	0.006	0.04
	Cr	mg/l	ND	ND
	T-P	mg/l	1.3	1.4
	Pb	mg/l	ND	ND
	Fluorine	mg/l	0.4	0.6
	Ammonia compound, Nitrous acid, Nitric acid	mg/l	13.7	13.1
	Ammonia nitrogen	mg/l	7.5	15
	Nitrous acid (NO ₂)	mg/l	7.3	7.1
I ₂ (amount iodine consumed)	mg/l	0.9	4.1	
No.5	n-hexane (mineral oil)	mg/l	0.08	ND
	n-hexane (animal/plant oil)	mg/l	3.30	5.6
No.8	BOD	mg/l	1.8	1.5
	SS	mg/l	0.3	0.5
	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	0.078	0.07
	Fe	mg/l	0.003	0.001
	Mn	mg/l	ND	ND
	Cr	mg/l	ND	ND
	T-P	mg/l	0.0008	0.001
	Pb	mg/l	ND	ND

	Fluorine	mg/l	ND	0.02
	Ammonia compound, Nitrous acid, Nitric acid	mg/l	0.4	0.40
	Ammonia nitrogen	mg/l	ND	ND
	Nitrous acid (NO ₂)	mg/l	0.4	0.40
	I ₂ (amount iodine consumed)	mg/l	0.5	2.0
No.9	BOD	mg/l	114.4	121
	SS	mg/l	71.3	73
	n-hexane (mineral oil)	mg/l	ND	ND
	n-hexane (animal/plant oil)	mg/l	4.8	5.6
	Cu	mg/l	ND	ND
	Zn	mg/l	0.06	0.05
	Fe	mg/l	0.1	0.07
	Mn	mg/l	ND	ND
	Cr	mg/l	ND	ND
	T-P	mg/l	7.9	8
	Fluorine	mg/l	0.1	0.03
	Pb	mg/l	ND	ND
	Ammonia compound, Nitrous acid, Nitric acid	mg/l	29.6	23.4
	Ammonia nitrogen	mg/l	60.8	56.2
	I ₂ (amount iodine consumed)	mg/l	36.0	48.6
Nitric acid (NO ₃)	mg/l	ND	1.2	

ND: No Detection (Below the detection limit)

-: Unmeasured

c) Waste

Waste (tons)		FY2016	FY2017
All solid waste generated		2,740	2,607
Reused or recycled		2,740	2,607
Landfilled		51	58
Sent to waste-to-energy		287	235
Incineration		49	52
Other disposal facilities (material recycle)		2,354	2,262
Discards that have been reduced (from a defined base year: previous year)		-159	133

d) Toxics

FY2017 PRTR data (kg)

No.	Name	Emissions to atmosphere	Transfer to waste	Removed/ consumed
374	hydrogen fluoride and its water-soluble salts	0	0	11,853
438	Methylnaphthalene	34	0	6,780

FY2016 PRTR data (kg)

No.	Name	Emissions to atmosphere	Transfer to waste	Removed/ consumed
374	hydrogen fluoride and its water-soluble salts	0	0	12,795
438	Methylnaphthalene	36	0	7,138

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>