

Notes

- 1. Original LCA data is available on PEIDS: Product Environmental Information Declaration Sheet, and Product Data Sheet.
- 2. Unified rules and requirements for EcoLeaf LCA, for intended product category, are available as a PCR: Product Category Rule. Visit EcoLeaf website under JEMAI homepage at http://www.ecoleaf-jemai.jp/eng/ for details.
- 3. Recycle Effect illustrates an indirect influence to other products/services.
- 4. Basic Units used for calculations are based on Japan domestic data at this time, due to a lack of base data to establish localized Basic Unit for overseas locations adequately.
- <sup>5</sup>. This declaration was produced using Product Category Rule intended for a product model sold in the Japanese market and using the qualitative and quantitative data collected in Japan.

# [Supplemental environmental information]

• Certified regulations: International Energy Star Program, EU RoHS.

• This product and its main components such as photoreceptor, toner, carrier are produced in our factories certified to ISO14001 management system standard.

PCR review was conducted by: PCR Deliberation Committee, January 01, 2008, Name of representative: Youji Uchiyama, University of Tsukuba, Graduate School

Independent verification of the declaration and data, according to ISO14025 Dinternal external Third party verifier \*: Kazuo Naito, system certification auditor

Programme operator: Japan Environmental Management Association for Industry, ecoleaf@jemai.or.jp

\* In the case of an business entity certified as an Ecoleaf-data-collection system, the names of certification auditors are written.

The EcoLeaf is an environmental labeling program that belongs to the ISO-Type II category.

# Product Environmental Information Data Sheet (PEIDS)



Document control no.	F-02Bs-02
Product vendor	RICOH COMPANY, LTD.
EcoLeaf registration no.	AD-18-E1043

Characterization Factor DB version

PCR name	EP and IJ print	EP and IJ printer		Pro C7200X with Color Controller E-85A [ Part #409153, #409				
PCR code	AD-04	Product weight (kg)	588	Package (kg)	25.0	Weight total (kg)	613	

				Life Cycle Stage		Prod	uction				
				Life Cycle Stage	Unit			Distribution	Use	Disposition	Recycle
In/Ou	ut items					Raw material	Product				Effect
		En		onsumption	MJ	3.44E+04	9.06E+03	6.81E+03	9.84E+04	3.04E+01	-3.02E+04
		L.I.	ergy Co	nsumption	Mcal	8.23E+03	2.16E+03	1.63E+03	2.35E+04	7.25E+00	-7.21E+03
			S	Coal	kg	5.14E+02	5.93E+01	1.59E-02	3.08E+02	1.79E-01	-4.64E+02
			Energy resources	Crude oil (for fuel)	kg	2.31E+02	6.77E+01	1.49E+02	8.51E+02	3.32E-01	-1.18E+02
			sou	LNG	kg	5.85E+01	3.67E+01	2.30E+00	3.62E+02	9.24E-02	-2.22E+01
			Le:	Uranium content of an ore	kg	3.93E-03	4.01E-03	1.08E-06	1.69E-02	1.21E-05	3.39E-04
	⊆.			Crude oil (for material)	kg	6.98E+01	0	0	3.61E+02	0	-2.05E+02
	otio	S		Iron content of an ore	kg	4.54E+02	0	0	5.76E+01	0	-4.96E+02
	Ĕ	ë		Cu content of an ore	kg	6.34E+00	0	0	2.85E-02	0	-7.00E+00
	sul	nu	Mineral resources	Al content of an ore	kg	2.86E+01	0	0	2.29E+00	0	-2.89E+01
	ü	so		Ni content of an ore	kg	3.00E+00	0	0	1.30E+00	0	-1.01E-02
	Ũ	re		Cr content of an ore	kg	4.22E+00	0	0	1.79E+00	0	-1.84E-01
	ce	ole		Mn content of an ore	kg	2.89E+00	0	0	5.16E-01	0	-4.31E-01
	n	stil	se	Pb content of an ore	kg	5.59E-01	0	0	5.47E-03	0	-5.69E-01
	esc	au	l re	Sn content of an ore	kg	1.67E-02	0	0	0	0	0
	Re		era	Zn content of an ore	kg	5.79E+00	0	0	7.45E-02	0	-5.59E+00
	à	ш	Ex iner	Au content of an ore	kg	7.00E-05	0	0	1.63E-06	0	0
	ses Impact by Resource Consumption		Σ	Ag content of an ore	kg	2.55E-03	0	0	7.55E-04	0	0
ŝ	es Ipa			Silica Sand	kg	1.21E+01	0	0	5.33E+00	0	-1.34E+01
se	Inventory anaiyses			Halite	kg	4.96E+01	1.66E-02	0	1.08E+01	4.09E-03	-5.27E+00
aiy				Limestone	kg	9.30E+01	0	0	1.38E+01	3.01E-01	-8.64E+01
an				Natural soda ash	kg	5.71E-01	0	0	5.35E-01	0	-9.38E-01
2		Ren	ewable	Wood	kg	4.69E+01	0	0	1.16E+02	0	0
Ito		-	ources	Water	kg	1.34E+05	4.77E+04	1.20E+01	4.07E+05	1.54E+02	-5.43E+04
/er					kg	2.22E+03	4.81E+02	4.83E+02	4.11E+03	2.99E+01	-1.71E+03
<u>L</u>		to Atmosphere		SO,	kg	2.10E+00	3.51E-01	3.09E-01	2.33E+00	1.56E-02	-1.51E+00
	he			NO <sub>x</sub>	kg	2.44E+00	3.09E-01	2.55E+00	6.10E+00	3.35E-02	-1.45E+00
	ot		ř,	N <sub>2</sub> O	kg	1.60E-01	2.93E-02	7.74E-02	9.33E-01	4.51E-05	-1.62E-01
	e		dsc	CH <sub>4</sub>	kg	9.95E-03	1.07E-02	2.88E-06	4.51E-02	3.24E-05	1.44E-03
	arg		Ĕ	CO	kg	4.99E-01	7.15E-02	7.20E-01	9.98E-01	5.99E-03	-8.79E-02
	ų.		¥	NMVOC	kg	1.95E-02	2.10E-02	5.64E-06	8.82E-02	6.35E-05	2.81E-03
	ent		<b>t</b>	C <sub>x</sub> H <sub>v</sub>	kg	7.78E-02	5.00E-03	7.32E-02	2.58E-01	1.11E-04	-6.62E-02
	ĘĔ			Dust	kg	3.37E-01	1.51E-02	2.39E-01	4.95E-01	1.85E-03	-2.87E-01
	o io			BOD	kg	-	-	-	-	-	-
	mission/Disc environment	n te	in ter	COD	kg	-	-	-	-	-	-
	Impact by Emission/Discharge to the environment	to Water system	to Water domain	N total	kg	-	-	-	-	-	-
	Ш Х	V c sys	√ v	P total	kg	-	-	-	-	-	-
	, p	ů, tá	đ đ	SS	kg	-	-	-	-	-	-
	aci			Unspecified Solid Waste	kg	1.48E+01	9.67E-02	0	6.79E+01	4.77E+01	-7.81E+00
	du	to	Soil	Slag	kg	1.57E+02	0	0	1.84E+01	0	-1.56E+02
	-		stem	Sludge	kg	6.13E+01	0	0	4.92E+00	0	-6.19E+01
		y		Low level radio-active waste	kg	2.75E-03	2.80E-03	7.53E-07	1.18E-02	8.46E-06	2.37E-04
ent	tion	Evbo	ustible	Energy resources (crude oil	kg	6.64E+02	1.83E+02	1.52E+02	1.62E+03	6.58E-01	-4.39E+02
Impact assessment	by Resource Consumption		ources	equivalent) Mineral resources (Iron ore equivalent)	kg	5.66E+03	0	0	1.45E+03	0	-2.80E+03
act as:	Emission / scharge to vironment	to Atn	nosphere	Global Warming (CO <sub>2</sub> equivalent)	kg	2.26E+03	4.89E+02	5.04E+02	4.36E+03	2.99E+01	-1.76E+03
Impe	by Em Disch envirc			Acidification (SO <sub>2</sub> equivalent)	kg	3.82E+00	5.68E-01	2.09E+00	6.60E+00	3.91E-02	-2.53E+00

[Notes for readers: EcoLeaf common rules]

I. Stage related

A. "Production" stage is intended for two sub-stages listed below.

(1) "Raw material" production: consists of mining, transportation and raw material production.

(2) "Product" production: consists of the parts processing, assembly and installation.

B. "Distribution" stage is intended for transportation of produced product. Transportation of consumables and maintenance goods (e.g. replacement parts) for use of the product are included into "Use" stage.

C. "Use" stage is intended for use of the product (active mode, standby mode, etc.) and production, transportation to disposal/recycle of consumables/maintenance goods (e.g. replacement parts).

D. "Disposition/Recycle" stage is intended for environmental impacts by product disposition/recycle, and deduction by recycling (e.g. impact reduction of raw material production).

E. "Recycle Effect" illustrates an indirect environmental influences to other products/services by use of reclaimed materials/parts, and/or by supply of used products to other businesses for material reclaim/parts reuse. Case 1: Use of reclaimed materials/parts: Sum of increase of environmental impact by collection activities of used materials/parts, and decrease by volume reduction of used materials/parts. Case 2: Supply of used products to other businesses for material reclaim/parts reuse: Sum of increase of environmental impact by materials/parts reclaiming process, and decrease by volume reduction of new materials/parts production.

#### II. Inventory analyses

A. Data of mineral ore on "Exhaustible resources" are presented in weight of pure ingredients (e.g. iron, aluminum) in the ore.

B. Data on energy resources are presented based on origin in calorific value. e.g. Data on uranium ore presents weight of uranium concentrate, which is available for use as an atomic fuel.

C. Data of discharge to water system are in actual figure (not calculated using unit function in inventory analyses).

#### III Impact analyses

Result of the "Impact analyses" is found in converting results of inventory analyses into total amount of a reference material (e.g. CO2 in case of "Global Warming").

A. Impact "by resource consumption" represents magnitude of impacts to resource depletion.

B. Impact "by emission/discharge to environment" represents magnitude of impacts to Atmosphere, Water and Soil system.

#### IV Data entry format

A. Exponential notation, after the decimal point to two, should be used.

B. Indicate "O" instead exponential notation, if the result of calculation or estimation is considered as "zero" or negligible in comparison to related results.

C. Indicate " - " if calculation nor estimation can not be done, in order to differentiate to indicate "zero".

(BGD for material production are for production from mineral ore. Those data do not include reclaiming processes like recovery from scrap.)

#### [Notes for readers: Target product specific]

This declaration was produced using Product Category Rule intended for a product model sold in the Japanese market and using the qualitative and quantitative data collected in Japan.

Form 3(F-03s-02)

## Product data sheet

(Input data and parameters for LCA)

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Document control no.	F-03s-02
Product vendor	RICOH COMPANY, LTD.
EcoLEaf registration no.	AD-18-E1043



	PCR name	EP	and IJ printe	r(PCR-ID:AD-04)	Product t	уре	Pro C7200X with Color Controller E-85A [ Part #409153, #4				3, #409119】
LCA	A/LCIA in units of:		1 p	roduct	Product weig	ht (kg)	588	Package (kg)	25.0	Weight total (kg)	613
1. Proc	duct information (	per unit): pa	arts etc. by n	naterial and by process/as	ssembly me	thod					
			Math br	eakdown of pa	rts, which need	to apply Proce	ssing / Assembly Base U	nits (Parts B, C)			
	Material n	ame	Weight (kg)	Material name	Weight (kg)	Р	Process nam	e Weid	ht (ka)	Process name	Weight (kg)

	Material name	Weight (kg)	Material name	Weight (kg)	Process name	Weight (kg)	Process name	Weight (kg)
	Stainless steel	1.89E+01	Thermosetting resin	5.05E+00	Press molding: Iron (kg)	4.47E+02	Parts assembly (kg)	5.73E+02
	Aluminum	2.70E+01	Electronic circuit board	5.76E+00	Press molding: Nonferrous metal (kg)	4.60E+01		
ct	Glass	5.11E+00	Ordinary steel	4.32E+02	Injection molding (kg)	7.12E+01		
Product	Rubber	3.65E+00	Wood	1.85E-02	Glass molding (kg)	8.75E+00		
2	Other metals	1.90E+01	Ultrapure water	1.66E+00				
	Paper	2.20E+01						
	Lubricant	7.77E-02						
	Thermoplastic resin	7.35E+01						
	Subtotal	1.69E+02	Subtotal	4.44E+02				
		Total		6.13E+02	Subtotal	5.73E+02	Subtotal	5.73E+02

Note

## 2. Production site information (per unit): Consumption and discharge/emission for production/processing/assembly within the site.

SOx and NOx should be indicated in SO<sub>2</sub>, NO<sub>2</sub> equivalent.

Б	Classification	Energy	Material	Energy	Material		
Consumption	Distribution	Electricity (kWh)	Clean water (kg)	Furnace urban gas (13A) (m <sup>3</sup> )	Industrial water (kg)		
Suo	Quantity	2.66E+02	3.51E+02	8.98E+00	2.41E+03		
S	Note						
	Classification	Water system					
Emission/ Discharge	Distribution	Sewage processing (kg)					
Dis	Quantity	2.86E+03					
	Note						
Note							

## 3. Distribution stage information (per unit): means, distance, loading ratio, consumptions and emissions/discharges.

			, ,	, .	, , ,		0		
ion	Means of transportation	Diesel truck: 20 ton (kg·km)	Freight by ship (kg∙km)	Freight by ship (kg∙km)	Freight by ship (kg∙km)	Freight by ship (kg·km)			
stribut	Conditions	Mass(kg)	Distance (km)	Loading Ratio(%w)	Load(kg·km)	Mass(kg)	Distance (km)	Loading Ratio(%w)	Load(kg·km)
Dist	Quantity	6.13E+02	1.28E+03	4.27E+01	1.83E+06	6.13E+02	1.16E+04	1.00E+02	7.11E+06
	Note								

Note

## 4. Use stage (per unit): use condition (mode, term) including active mode, standby mode and maintenance.

#### 4.1 Product and accessories subject to this analysis

		· · · · · · · · · · · · · · · · · · ·	ct to this analysi	-					
	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
	Distribution	Stainless steel plate (kg)	Aluminum plate (kg)	Glass (kg)	Styrene- butadiene rubber (SBR) (kg)	Nitrile-butadiene rubber (NBR) (kg)	Copper plate (kg)	Zinc (kg)	Gold (kg)
	Quantity	8.25E+00	2.17E+00	6.38E+00	7.70E+00	1.62E-03	9.45E-02	4.31E-02	1.63E-06
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Condition	Consumption
	Distribution	Silver (kg)	Corrugated cardboard (kg)	Lubricant (kg)	ABS (kg)	PA66 (Polyamide 66) (kg)	Polycarbonate (kg)	Diesel truck: 20 ton (kg·km)	Polycarbonate- ABS (70/30) (kg)
	Quantity	7.55E-04	5.46E+01	1.65E-02	1.80E+00	7.21E-04	2.28E+00	7.65E+05	4.23E+00
rct	Note								
Product	Classification	Consumption	Consumption	Consumption	Consumption	Condition	Consumption	Consumption	Consumption
ā	Distribution	High density polyethylene (kg)	Low density polyethylene (kg)	PET (kg)	POM (polyacetal) (kg)	Freight by ship (kg∙km)	Polypropylene (kg)	Polystyrene (kg)	PVC (kg)
	Quantity	1.14E+02	5.36E+00	3.19E+02	1.18E+00	4.31E+06	2.80E-01	1.39E+01	1.93E-01
	Note								
	Classification	Consumption	Consumption	Consumption	Condition	Consumption	Consumption	Consumption	Consumption
	Distribution	Epoxy resin (EP) (kg)	Expandable hard polyurethane (Hard) (kg)	Expandable soft polyurethane (for automobile) (kg)	Diesel truck: 20 ton (kg∙km)	Assembled circuit board (kg)	Electroplated steel Plate (kg)	Cold-Rolled steel plate (kg)	Press molding: Iron (kg)
	Quantity	2.79E-01	5.24E-01	1.59E-01	4.60E+05	2.97E-05	1.86E+00	5.11E+01	6.12E+01
	Note								

	Classification	Condition	Consumption	Consumption	Consumption	Consumption	Energy	Energy	Material
	Distribution	Freight by ship (kg · km)	Press molding: Nonferrous metal (kg)	Injection molding (kg)	Glass molding (kg)	Parts assembly (kg)	Electricity (kWh)	Furnace urban gas (13A) (m <sup>3</sup> )	Clean water (kg)
#	Quantity	2.59E+06	2.31E+00	1.46E+02	1.41E+01	2.24E+02	1.03E+03	2.40E+02	6.24E+01
p	Note								
Product	Classification	Material	Water system	Consumption	Consumption				
	Distribution	Industrial water (kg)	Sewage processing (kg)	Electricity (kWh)	Gasoline as fuel (kg)				
	Quantity	5.20E+04	5.22E+04	2.68E+03	7.33E+00				
	Note								

Note

#### 4.2 Disposition/Recycle information on consumables and replacement parts

	Classification	Process	Process	Process	Process	Process	Process	Process	Process
	Distribution	Landfill: Industrial waste (kg)	Incineration to Iandfill (as ash) (kg)	Diesel truck: 4 ton (kg∙km)	Shredding (kg)	Sorting: Iron (by magnetic force) (kg)	Sorting: Nonferrous metal (by eddy current with wind force) (kg)	Sorting: Plastics (by relative density difference in water) (kg)	Recycle: to Glass (kg)
	Quantity	4.89E+01	5.46E+01	5.28E+03	2.55E+02	2.49E+02	1.90E+02	1.88E+02	6.38E+00
	Note								
oles	Classification	Process	Process	Process	Process	Deduction	Deduction	Deduction	Deduction
Consumables	Distribution	Recycle: to cold-rolled steel (kg)	Recycle: to Aluminum plate (kg)	Recycle: to copper plate (kg)	Recycle: to Thermoplastic pellet (kg)	Glass (kg)	Cold-Rolled steel plate (kg)	Aluminum plate (kg)	Copper plate (kg)
-	Quantity	5.88E+01	2.08E+00	1.33E-01	1.39E+02	6.25E+00	5.88E+01	2.08E+00	1.33E-01
	Note								
	Classification	Deduction	Process						
	Distribution	Polystyrene (kg)	Diesel truck: 10 ton (kg⋅km)						
	Quantity	1.39E+02	2.04E+05						
	Note								

Note

## 5. Disposition/Recycle stage information (per product): process method and scenarios

Scenario	Classification	Process	Process	Process	Process	Process	Process	Deduction	Process
	Distribution	Landfill: Industrial waste (kg)	Shredding (kg)	Incineration: Industrial waste (kg)	Incineration to landfill (as ash) (kg)	Diesel truck: 10 ton (kg ⋅ km)	Diesel truck: 4 ton (kg∙km)	High density polyethylene (kg)	Sorting: Iron (by magnetic force) (kg)
	Quantity	4.44E+01	5.84E+02	4.30E-01	2.15E+01	4.68E+05	2.08E+03	8.68E-01	5.78E+02
	Note								
	Classification	Process	Process	Process	Process	Process	Process	Process	Deduction
	Distribution	Sorting: Nonferrous metal (by eddy current with wind force) (kg)	Sorting: Plastics (by relative density difference in water) (kg)	Recycle: to Glass (kg)	Recycle: to cold-rolled steel (kg)	Recycle: to Aluminum plate (kg)	Recycle: to copper plate (kg)	Recycle: to Thermoplastic pellet (kg)	Glass (kg)
	Quantity	1.58E+02	1.15E+02	5.04E+00	4.20E+02	2.52E+01	2.31E+01	6.65E+01	4.94E+00
	Note								
	Classification	Deduction	Deduction	Deduction	Deduction				
	Distribution	Cold-Rolled steel plate (kg)	Aluminum plate (kg)	Copper plate (kg)	Polystyrene (kg)				
	Quantity	4.20E+02	2.52E+01	2.31E+01	6.57E+01				
	Note								
Note									

## 6. Others

This declaration was produced using Product Category Rule intended for a product model sold in the Japanese market and using the qualitative and quantitative data collected in Japan.