Product Environmental Aspects Declaration



EP and IJ printer (PCR-ID:AD-04)

No. AD-15-E611 Date of publication Jun./3/2015



Environment Contact: RICOH Company, Ltd.

Corporate Communication Center email : envinfo@ricoh.co.jp

SAVIN SP 3600SF

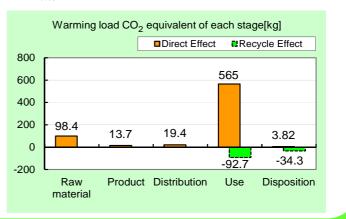
- **1.Printing Process :** Electrophotographic (EP) Printing **2.Color :** Monochrome
- 3.Print Speed : 31 prints/minute (Letter)
- 4.Maximum Paper Size : 8.5" x 14"

5.Included Units in Assessment : Automatic Document Feeder, Automatic Duplexing Unit

The warming load of the Use stage is based on the supposition that the product prints 558,000 images for five years.

Consumption and discharge in a life cycle	All the stage sum totals
Global Warming (CO ₂	700kg
equivalent)	(573kg)
Acidification (SO ₂	1.25kg
equivalent)	(1.02kg)
Energy resources (crude oil	13.6GJ
equivalent)	(10.5GJ)

%Figures in () indicated environmental impact including recycle effect *note3



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.
- 5. 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 and toner are produced in our factories certified to ISO14001 management system standard.

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

Independent verification of the declaration and data, according to ISO14025 □internal ■external Third party verifier: Shozo Nakamuta *

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 III category.

Document control no. F-02B-03

Product Environmental Information Data Sheet (PEIDS)

Unit Function DB version



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v2.1

	Docume	nt control no.	F-	F-02B-03			Function DB version	v2.1		製品環境情報
	Produ	uct vendor	RICOH CO	OMPAN	IY, LTD.	Characterizatio	on Factor DB version	v2.1		http://www.jemai.or.jp
E	coLeaf r	egistration no	AD-	-15-E61	1				-	
	PC	R name	EP an	d IJ pri	nter	Product type		SAVIN S	P 3600SF	
		CR ID	AD-04	• p · ·	Product weight (kg)	19.0	Package (kg)	4.1	Weight total (kg)	23.1
							• • •		• •••	-
n/Ou	ut items		Life Cycle Stage	Unit	Prode Raw material	uction Product	Distribution	Use	Disposition	Recycle effect
Ener		sumption		MJ	1.98E+03	2.54E+02	2.68E+02	1.11E+04	4.57E+00	-3.17E+03
The	igy con:	sumption		Mcal	4.72E+02	6.08E+01	6.40E+01	2.66E+03	1.09E+00	-7.56E+02
			Coal	kg	1.07E+01	1.74E+00	1.73E-01	4.30E+01	2.25E-02	-1.52E+01
		Energy	Crude oil (for fuel)	kg	1.94E+01	1.96E+00	5.53E+00	1.11E+02	5.82E-02	-1.89E+01
			LNG	kg	3.36E+00	9.11E-01	1.66E-01	2.45E+01	1.19E-02	-1.88E+00
			Uranium content of an ore	kg	3.08E-04	1.18E-04	1.14E-05	2.13E-03	1.52E-06	1.04E-05
			Crude oil (for material)	kg	1.03E+01	0	0	4.00E+01	0	-3.86E+01
			Iron content of an ore	kg	5.56E+00	0	0	9.21E+00	0	-1.41E+01
			Cu content of an ore	kg	3.56E-01	0	0	3.77E-02	0	-7.21E-01
	E		Al content of an ore	kg	1.04E-01	0	0	1.55E+00	0	-1.58E+00
	Resource Consumption from the environment	Exhaustible resources	Ni content of an ore	kg	9.69E-02	0	0	6.13E-02	0	-2.87E-04
	ronr	aust	Cr content of an ore	kg	1.33E-01	0	0	8.62E-02	0	-5.23E-03
	Con	Exha	Mn content of an ore	kg	4.51E-02	0	0	5.87E-02	0	-1.22E-02
	the	Material	Pb content of an ore	kg	2.93E-02	0	0	3.06E-03	0	-5.86E-02
	sou om 1		Sn content of an ore	kg	0	0	0	0	0	0
	fr Re		Zn content of an ore	kg	2.91E-01	0	0	3.01E-02	0	-5.76E-01
			Au content of an ore	kg	0	0	0	0	0	0
			Ag content of an ore	kg	0	0	0	0	0	0
			Silica Sand	kg	1.60E+00	0	0	1.77E-01	0	-8.18E-01
ses			Halite	kg	6.94E+00 1.68E+00	0	0	1.16E+01 4.09E+00	5.26E-04	-3.11E-01 -2.56E+00
naly			Limestone	kg		0	0		4.39E-02 0	
Inventory analyses		Denewshie	Natural soda ash Wood	kg	8.14E-02 6.04E+00	0	0	6.67E-03 7.74E+01	0	-6.01E-02 0.00E+00
ento		Renewable resources	Water	kg kg	6.70E+03	1.35E+03	1.27E+02	3.80E+04	1.93E+01	-3.23E+03
Invi		100001000		kg kg	9.58E+01	1.36E+01	1.87E+01	5.50E+02	3.82E+00	-1.21E+02
			SO _y	kg	6.78E-02	1.03E-02	1.26E-02	3.64E-01	2.04E-03	-1.03E-01
			NO _x	kg	1.31E-01	8.35E-03	1.00E-02	8.81E-01	5.12E-03	-1.74E-01
			N ₂ O	kg	9.67E-03	2.92E-04	2.69E-03	5.23E-02	5.74E-06	-2.04E-02
		to Atmosphere	CH ₄	kg	8.19E-04	3.14E-04	3.04E-05	5.67E-02	4.08E-06	5.80E-05
		to / timosphere	CO	kg	1.40E-02	2.01E-03	2.96E-02	1.45E-01	1.09E-03	3.85E-03
	0		NMVOC	kg	1.60E-02	6.15E-04	5.95E-05	1.11E-02	7.98E-06	1.13E-04
	arg		C _x H _y	kg	4.59E-03	5.51E-05	2.76E-03	2.36E-02	3.04E-05	-8.08E-03
	ronr		Dust	kg	1.47E-02	4.42E-04	9.19E-03	7.23E-02	2.91E-04	-2.67E-02
	on/D envi		BOD	kg	-	-	-	-	-	-
	Emission/Discharge to the environment		COD	kg	-	-	-	-	-	-
	to E	to Water system	N total	kg	-	-	-	-	-	-
			P total	kg	-	-	-	-	-	-
			SS	kg	-	-	-	-	-	-
			Unspecified Solid Waste	kg	9.93E-01	0	0	1.98E+01	1.84E+00	-4.67E-01
			Slag	kg	3.15E+00	0	0	2.92E+00	0	-4.92E+00
		to Soil system	Sludge	kg	2.23E-01	0	0	3.32E+00	0	-3.40E+00
			Low level radio-active waste	kg	2.16E-04	8.21E-05	7.93E-06	1.49E-03	1.06E-06	7.34E-06
ut	ource	Exhaustible	Energy resources (crude oil equivalent)	kg	3.29E+01	5.14E+00	5.94E+00	1.85E+02	9.94E-02	-3.08E+01
sessme	by Resource Consumption	resources	Mineral resources (Iron ore equivalent)	kg	2.00E+02	0	0	9.82E+01	0	-2.55E+02
Impact assessment	~ ~ ~		Global Warming (CO ₂ equivalent)	kg	9.84E+01	1.37E+01	1.94E+01	5.65E+02	3.82E+00	-1.27E+02
lm	by Emission Discharge to the environmen	to Atmosphere	Acidification (SO ₂ equivalent)	kg	1.59E-01	1.61E-02	8.27E-02	9.81E-01	5.62E-03	-2.25E-01

[Notes for readers: EcoLeaf common rules]

Induce to reduce control common race,
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" product: 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

Case 2: Supply of used products to other businesses for material reclaim/parts reuse: 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).

Il 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

V use 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", or negligible in comparison to related results. (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.

Product data sheet

(Input data and parameters for LCA)



	(input data and param
Document control no.	F-03-03
Product vendor	RICOH COMPANY, LTD.
EcoLEaf registration no.	AD-15-E611

		PCR name	EF	and IJ print	er(PCR-ID:AD-04)	Product	type			SAV	IN SP 3	600SF	
	LCA/	LCIA in units of:		1	product	Product weig	ght (kg)	19.0	Pac	kage (kg)	4.1	Weight total (kg)	23.1
1.	Produ	ct information (p	per unit): p	arts etc. by	material and by process/as	sembly me	thod						
					imary materials		Math breakdown of parts, which need to apply Processing / Assembly Base Units (Parts B, C)						
		Material name		Weight (kg)	Material name	Weight (kg)	Process name		Weight (kg)	Process name	Weight (kg)	
		Stainless steel		6.13E-01	Electronic circuit board	1.16E+00	Press molding: Iron (kg)		5.78E+00	Pa	rts assembly (kg)	2.02E+01	
		Aluminum		9.83E-02	Ordinary steel	5.06E+00	Press molding: Nonferrous metal (kg)) 8.27E-01				
	rc	Glass		6.62E-01			Injection molding (kg)) 1.11E+01				
	Product	Rubber		7.18E-01			Gla	ss molding	g (kg)	1.38E+00			
	Ā	Other met	als	7.29E-01									
		Paper		2.79E+00									
		Thermoplasti	c resin	1.11E+01									
		Thermosettin	g resin	1.36E-01									
		Subtotal		1.69E+01	Subtotal	6.22E+00							
				Total		2.31E+01		Subtota		1.91E+01		Subtotal	2.02E+01

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 SO₂, NO₂ equivalent.

ы	Classification	Energy	Material	Energy	Material	Energy		
Consumption	Distribution	Electricity (kWh)	Clean water (kg)	Furnace LNG (kg)	Industrial water (kg)	Furnace urban gas (13A) (m ³)		
suo	Quantity	7.20E+00	6.65E+00	2.42E-02	2.48E+01	2.31E-02		
S	Note							
	Classification	Water system						
Emission/ Discharge	Distribution	Sewage processing (kg)						
Dis	Quantity	3.14E+01						
	Note							
Note								

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

	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)			
	Conditions	Mass(kg)	Distance (km)	Loading Ratio(%w)	Load(kg·km)	Mass(kg)	Distance (km)	Loading Ratio(%w)	Load(kg·km)
ion	Quantity	2.31E+01	7.80E+02	4.23E+01	4.26E+04	2.31E+01	1.06E+04	1.00E+02	2.44E+05
ort	Note								
Distribution	Means of transportation	Freight by rail	Freight by rail	Freight by rail	Freight by rail	Diesel truck:	Diesel truck:	Diesel truck:	Diesel truck:
	aanopontation	(kg∙km)	(kg∙km)	(kg∙km)	(kg·km)	20 ton (kg·km)	20 ton (kg·km)	20 ton (kg·km)	20 ton (kg·km)
	Conditions	(kg•km) Mass(kg)	(kg·km) Distance (km)	(kg∙km) Loading Ratio(%w)	(kg∙km) Load(kg∙km)	20 ton (kg∙km) Mass(kg)	20 ton (kg·km) Distance (km)	20 ton (kg∙km) Loading Ratio(%w)	20 ton (kg·km) Load(kg·km)
				Loading				Loading	

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

	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
	Distribution	Stainless steel plate (kg)	Aluminum plate (kg)	Glass (kg)	Styrene- butadiene rubber (SBR) (kg)	Copper plate (kg)	Gold (kg)	Tin (kg)	Corrugated cardboard (kg)
	Quantity	3.87E-01	1.46E+00	6.91E-02	4.96E+00	1.09E-01	1.24E-06	1.43E-04	3.63E+01
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
Product	Distribution	ABS (kg)	PA66 (Polyamide 66) (kg)	Polycarbonate (kg)	Polycarbonate- ABS (70/30) (kg)	High density polyethylene (kg)	Low density polyethylene (kg)	PET (kg)	POM (polyacetal) (kg)
-	Quantity	9.04E+00	9.54E-03	2.61E-01	6.01E+00	1.68E+00	1.73E+00	1.29E+01	9.33E-01
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
	Distribution	Polystyrene (kg)	Epoxy resin (EP) (kg)	Expandable hard polyurethane (Hard) (kg)	Expandable soft polyurethane (for automobile) (kg)	Assembled circuit board (kg)	Electroplated steel Plate (kg)	Cold-Rolled steel plate (kg)	Press molding: Iron (kg)
	Quantity	7.42E+00	2.55E-02	9.41E-03	2.53E+00	3.50E-02	4.13E+00	4.64E+00	9.15E+00
	Note								

	Classification	Consumption	Condition	Consumption	Consumption	Consumption	Energy	Energy	Condition
	Distribution	Press molding: Nonferrous metal (kg)	Diesel truck: 10 ton (kg∙km)	Injection molding (kg)	Glass molding (kg)	Parts assembly (kg)	Electricity (kWh)	Furnace LNG (kg)	Freight by ship (kg · km)
	Quantity	1.57E+00	2.90E+04	3.15E+01	5.02E+00	4.72E+01	4.63E+01	2.22E+00	4.27E+05
	Note								
	Classification	Energy	Consumption	Consumption	Condition	Condition	Condition	Condition	Condition
Product	Distribution	Furnace urban gas (13A) (m ³)	Electricity (kWh)	Gasoline (kg)	Freight by rail (kg · km)	Diesel truck: 20 ton (kg·km)	Diesel truck: 20 ton (kg·km)	Freight by ship (kg · km)	Freight by rail (kg · km)
	Quantity	2.12E+00	3.43E+02	2.93E+00	2.36E+05	4.59E+04	5.95E+04	5.01E+05	2.36E+05
	Note								
	Classification	Condition							
	Distribution	Diesel truck: 20 ton (kg·km)							
	Quantity	4.58E+04							
	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 landfill (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	1.02E+01	3.63E+01	3.52E+03	4.84E+01	4.83E+01	3.95E+01	3.80E+01	6.91E-02
	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	8.79E+00	1.41E+00	1.37E-01	2.78E+01	6.77E-02	8.79E+00	1.41E+00	1.37E-01
	Note								
	Classification	Deduction	Process						
	Distribution	Polystyrene (kg)	Diesel truck: 10 ton (kg·km)						
	Quantity	2.78E+01	3.87E+04						
	Note								

Note

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

	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	1.44E+00	2.04E+01	1.75E-01	2.57E+00	1.63E+04	2.48E+02	9.00E-01	1.87E+01
	Note								
	Classification	Process	Process	Process	Process	Process	Process	Process	Deduction
Scenario	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	1.39E+01	1.31E+01	6.62E-01	4.80E+00	9.18E-02	2.26E+00	1.10E+01	6.48E-01
	Note								
	Classification	Deduction	Deduction	Deduction	Deduction				
	Distribution	Cold-Rolled steel plate (kg)	Aluminum plate (kg)	Copper plate (kg)	Polystyrene (kg)				
	Quantity	4.80E+00	9.18E-02	2.26E+00	1.01E+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.