Product Environmental Aspects Declaration



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

No. AD-15-E650 Date of publication Jul./6/2015



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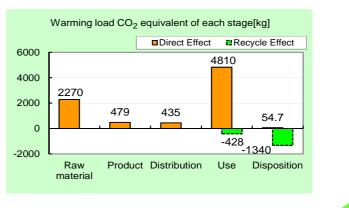
SAVIN Pro C7110S Pro80

 Printing Process : Electrophotographic (EP) Printing
Color : Monochrome and Full-color
Print Speed : 90 prints/minute (LTR)
Maximum Paper Size : 13" x 49" (bypass tray or LCIT)
Included Units in Assessment : Automatic Reversing Document Feeder, Automatic Duplexing Unit

The warming load of the Use stage is based on the supposition that the product prints 4,838,400 images for five years.

Consumption and discharge in a	All the stage sum
life cycle	totals
Global Warming (CO ₂	8.05t
equivalent)	(6.29t)
Acidification (SO ₂	13.3kg
equivalent)	(10.7kg)
Energy resources (crude oil	158GJ
equivalent)	(127GJ)

% 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, 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 reprentative: Youji Uchiyama, University of Tsukuba, Graduate School

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.

Document control no.

Product Environmental Information Data Sheet (PEIDS)

Unit Function DB version V2.1

F-02B-03



	Docume			1					VZ.I 毁而束埸 http://www.jema		
	Produ	uct ven	dor	RICOH C	OMPAN	IY, LTD.	Characterizatio	on Factor DB version	v2.1		http://www.jemai.or.jp
E	coLeaf r	registra	tion no	AD	-15-E65	0				-	
_		- J		, (5	.0 200	•					
	PC	R name	Э	EP an	id IJ pri	nter	Product type		SAVIN Pro C	7110S Pro80	
	P	PCR ID		AD-04		Product weight (kg)	582	Package (kg)	57	Weight total (kg)	639
				Life Cycle Stage		Dred	uction				
	ut items				Unit	Raw material	Product	Distribution	Use	Disposition	Recycle effect
11/00		Kaw material Product MJ 3.44E+04 8.93E+03 6.02E+03 1.09E+05 5.38E+01				-3.09E+04					
Ene	rgy Con	sumptio	on		Mcal	8.21E+03	2.13E+03	1.44E+03	2.60E+04	1.28E+01	-7.37E+03
		<u> </u>		Coal		5.22E+02	6.00E+01	4.79E+00	3.60E+04	3.24E-01	-4.56E+02
				Crude oil (for fuel)	kg kg	2.29E+02	6.79E+01	1.23E+02	9.63E+02	5.76E-01	-1.24E+02
		E	inergy	LNG	kg	5.71E+01	3.31E+01	4.14E+00	3.44E+02	1.67E-01	-2.33E+01
				Uranium content of an ore	kg	3.62E-03	4.05E-03	3.14E-04	2.07E-02	2.19E-05	3.24E-04
				Crude oil (for material)	kg	6.96E+01	0	0	3.90E+02	0	-2.17E+02
				Iron content of an ore	kg	4.57E+02	0	0	5.93E+01	0	-4.83E+02
				Cu content of an ore	kg	6.02E+00	0	0	4.13E-02	0	-7.21E+00
	-			Al content of an ore	kg	2.99E+01	0	0	2.25E+00	0	-3.00E+01
	Resource Consumption from the environment	e e		Ni content of an ore	kg	2.24E+00	0	0	2.56E-01	0	-9.83E-03
	lu ng	Exhaustible resources		Cr content of an ore	kg	3.19E+00	0	0	3.68E-01	0	-1.79E-01
	Cons	xha reso		Mn content of an ore	kg	2.79E+00	0	0	3.56E-01	0	-4.19E-01
	ce (ш – _М	laterial	Pb content of an ore	kg	6.11E-01	0	0	7.39E-03	0	-5.86E-01
	sour om t			Sn content of an ore	kg	0	0	0	0	0	0
	fre			Zn content of an ore	kg	5.63E+00	0	0	9.91E-02	0	-5.76E+00
				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	2.20E+01	0	0	2.48E+00	0	-1.09E+01
ses				Halite Limestone	kg kg	4.82E+01 9.34E+01	0	0	8.30E+00 1.44E+01	6.50E-03 5.33E-01	-4.65E+00 -8.34E+01
naly				Natural soda ash	kg	5.81E-01	0	0	2.04E-01	0	-6.54E-01
Inventory analyses		Renewa	ablo	Wood	kg	9.03E+01	0	0	2.94E+02	0	0.00E+00
entc		resourc		Water	kg	1.30E+05	4.69E+04	3.52E+03	4.25E+05	2.78E+02	-5.67E+04
<u>S</u>		lessences		CO ₂	kg	2.23E+03	4.74E+02	4.18E+02	4.61E+03	5.47E+01	-1.72E+03
				SO _x	kg	2.20E+00	3.55E-01	2.67E-01	2.69E+00	2.85E-02	-1.56E+00
				NO _x	kg	2.52E+00	2.95E-01	1.95E+00	6.27E+00	6.04E-02	-1.51E+00
				N ₂ O	kg	1.62E-01	1.56E-02	6.29E-02	7.55E-01	7.16E-05	-1.68E-01
		to Atmo	sphere	CH ₄	kg	9.06E-03	1.08E-02	8.40E-04	5.52E-02	5.87E-05	1.42E-03
				CO	kg	5.20E-01	7.03E-02	5.32E-01	9.23E-01	1.07E-02	-8.92E-02
	ut ge			NMVOC	kg	1.77E-02	2.13E-02	1.65E-03	1.08E-01	1.15E-04	2.78E-03
	char			C _x H _y	kg	7.77E-02	2.78E-03	5.65E-02	2.30E-01	1.84E-04	-6.81E-02
	Disc			Dust	kg	3.44E-01	1.53E-02	1.83E-01	5.08E-01	3.37E-03	-2.93E-01
	Emission/Discharge to the environment			BOD	kg	-	-	-	-	-	-
	o the			COD	kg	-	-	-	-	-	-
	ш +	to Water	system	N total	kg	-	-	-	-	-	-
				P total	kg	-	-	-	-	-	-
				SS Unspecified Solid Waste	kg	-	-	-	-	-	-
				Slag	kg	1.55E+01 1.63E+02	0	0	9.05E+01 1.83E+01	5.70E+01 0	-8.14E+00 -1.52E+02
		to Soil s	system	Sludge	kg kg	6.41E+01	0	0	4.83E+01	0	-6.44E+01
				Low level radio-active waste	kg	2.54E-03	2.83E-03	2.20E-04	1.44E-02	1.53E-05	2.27E-04
	9 5			Energy resources (crude oil							
ŧ	ourc	Exhaus	tible	equivalent)	kg	6.62E+02	1.79E+02	1.33E+02	1.78E+03	1.16E+00	-4.42E+02
men	by Resource Consumption	resourc		Mineral resources (Iron ore		4.407.00			5 4 9 5 9 9		0.007 00
sess	by			equivalent)	kg	4.42E+03	0	0	5.16E+02	0	-2.86E+03
Impact assessment	by Emission/ Discharge to the environment	to Atro	anhara	Global Warming (CO ₂ equivalent)	kg	2.27E+03	4.79E+02	4.35E+02	4.81E+03	5.47E+01	-1.77E+03
Ē	by Emi Discha thi enviror	to Atmo	spnere	Acidification (SO ₂ equivalent)	kg	3.97E+00	5.62E-01	1.63E+00	7.08E+00	7.09E-02	-2.62E+00
_	e D e										

[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-E650

	PCR name			and IJ print	er(PCR-ID:AD-04)	Product	type			SAV	IN Pro	o C7110S Pro80	
	LCA/	CIA in units of:		1	product	Product weig	ght (kg) 582 Packa		ackage (kg)	5	7 Weight total (k	g) 639	
1.	Produ	ct information (p	per unit): p	arts etc. by	material and by process/as	ssembly me	thod						
			Bre	eakdown of pi	imary materials		Math br	eakdown of	parts,	which need to	o apply	Processing / Assembly Base	Units (Parts B, C)
		Material name		Weight (kg)	Material name	Weight (kg)	F	Process na	ame	Weigh	t (kg)	Process name	Weight (kg)
		Stainless steel		1.41E+01	Electronic circuit board	6.96E+00	Press molding: Iron (kg)		4.48E	E+02	Parts assembly (kg)	5.80E+02	
		Aluminum		2.82E+01	Ordinary steel	4.34E+02	Press molding: Nonferrous metal (kg)		(g) 4.68E	E+01			
	ct	Glass		5.51E+00	Clean water	7.41E+00	Injection molding (kg)		(g) 7.26E	+01			
	Product	Rubber		3.07E+00			Glass molding (kg)) 8.588	E+00			
	đ	Other met	als	1.85E+01									
		Paper		4.19E+01									
		Thermoplasti	c resin	7.40E+01									
		Thermosetting	g resin	4.85E+00									
		Subtotal		1.90E+02	Subtotal	4.49E+02							
				Total		6.39E+02		Subtota	l	5.76	+02	Subtotal	5.80E+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 SO₂, NO₂ equivalent.

ы	Classification	Energy	Material	Energy	Material	Energy		
umption	Distribution	Electricity (kWh)	Clean water (kg)	Furnace LNG (kg)	Industrial water	Furnace urban		
L L L		,(,	((kg)	gas (13A) (m ³)		
onst	Quantity	2.75E+02	2.79E+02	1.25E+00	1.13E+03	2.30E+00		
U U	Note							
	Classification	Water system						
Emission/ Discharge	Distribution	Sewage processing (kg)						
Emi Dis	Quantity	1.41E+03						
	Note							
Note								

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

	Means of transportation	Diesel truck: 10 ton (kg·km)	Freight by ship (kg∙km)	Freight by ship (kg∙km)	Freight by ship (kg∙km)	Freight by ship (kg · km)			
Distribution	Conditions	Mass(kg)	Distance (km)	Loading Ratio(%w)	Load(kg·km)	Mass(kg)	Distance (km)	Loading Ratio(%w)	Load(kg·km)
	Quantity	6.39E+02	1.52E+02	5.11E+01	1.90E+05	6.39E+02	9.02E+03	1.00E+02	5.76E+06
	Note								
	Means of transportation	Freight by rail (kg · km)	Freight by rail (kg · km)	Freight by rail (kg · km)	Freight by rail (kg·km)	Diesel truck: 20 ton (kg·km)			
	Conditions	Mass(kg)	Distance (km)	Loading Ratio(%w)	Load(kg·km)	Mass(kg)	Distance (km)	Loading Ratio(%w)	Load(kg·km)
	Quantity	6.39E+02	4.99E+03	1.00E+02	3.19E+06	6.39E+02	6.00E+02	3.50E+01	1.10E+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

	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)	Zinc (kg)	Corrugated cardboard (kg)	Paper (Western style) (kg)
	Quantity	1.62E+00	2.13E+00	2.44E+00	2.51E+00	1.37E-01	5.51E-02	1.38E+02	4.19E-03
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
Product	Distribution	ABS (kg)	Polycarbonate (kg)	Polycarbonate- ABS (70/30) (kg)	High density polyethylene (kg)	Low density polyethylene (kg)	PET (kg)	POM (polyacetal) (kg)	Polypropylene (kg)
	Quantity	4.44E+00	1.19E+00	4.67E+00	6.80E+01	2.57E+01	3.59E+02	7.14E+00	3.30E-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)	Electroplated steel Plate (kg)	Hot Dipped steel plate (kg)	Cold-Rolled steel plate (kg)	Press molding: Iron (kg)
	Quantity	4.25E+01	2.88E-02	1.90E-01	4.88E-01	2.02E+00	7.92E-01	5.39E+01	4.90E+01
	Note								

	Classification	Condition	Consumption	Consumption	Consumption	Consumption	Energy	Condition	Energy
	Distribution	Diesel truck: 10 ton (kg∙km)	Press molding: Nonferrous metal (kg)	Injection molding (kg)	Glass molding (kg)	Parts assembly (kg)	Electricity (kWh)	Freight by ship (kg · km)	Furnace LNG (kg)
	Quantity	9.34E+04	2.32E+00	1.57E+02	4.95E+00	2.13E+02	1.51E+03	4.46E+06	7.19E+01
	Note								
	Classification	Energy	Material	Water system	Consumption	Consumption	Condition	Condition	Condition
Product	Distribution	Furnace urban gas (13A) (m ³)	Industrial water (kg)	Sewage processing (kg)	Electricity (kWh)	Gasoline (kg)	Freight by rail (kg · km)	Diesel truck: 20 ton (kg·km)	Diesel truck: 10 ton (kg·km)
_	Quantity	7.28E+01	3.42E+02	3.42E+02	3.03E+03	8.80E+00	2.47E+06	4.79E+05	1.76E+03
	Note								
	Classification	Condition	Condition	Condition	Condition	Condition	Condition	Condition	
	Distribution	Freight by ship (kg∙km)	Freight by rail (kg∙km)	Diesel truck: 20 ton (kg·km)	Diesel truck: 10 ton (kg∙km)	Freight by ship (kg∙km)	Freight by rail (kg∙km)	Diesel truck: 20 ton (kg·km)	
	Quantity	8.38E+04	4.64E+04	9.00E+03	5.23E+04	1.92E+06	1.06E+06	2.06E+05	
	Note								

Note

4.2 Disposition/Recycle information on consumables and replacement parts

	Classification	Process	Process	Process	Process	Process	Process	Process	Process
	Distribution	Diesel truck: 4 ton (kg∙km)	Landfill: Industrial waste (kg)	Incineration to landfill (as ash) (kg)	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	1.34E+04	5.66E+01	1.38E+02	2.58E+02	2.56E+02	2.09E+02	2.07E+02	2.44E+00
	Note								
les	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)
Ŭ	Quantity	4.71E+01	2.04E+00	1.84E-01	1.50E+02	2.39E+00	4.71E+01	2.04E+00	1.84E-01
	Note								
	Classification	Deduction	Process						
	Distribution	Polystyrene (kg)	Diesel truck: 10 ton (kg∙km)						
	Quantity	1.50E+02	2.07E+05						
	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	5.09E+01	5.94E+02	4.23E-01	3.98E+01	4.75E+05	3.85E+03	1.24E+00	5.86E+02
	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	1.68E+02	1.24E+02	5.51E+00	4.19E+02	2.64E+01	2.37E+01	6.82E+01	5.40E+00
	Note								
	Classification	Deduction	Deduction	Deduction	Deduction				
	Distribution	Cold-Rolled steel plate (kg)	Aluminum plate (kg)	Copper plate (kg)	Polystyrene (kg)				
	Quantity	4.19E+02	2.64E+01	2.37E+01	6.69E+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.