Product Environmental Aspects Declaration

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



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http://konicaminolta.jp

Please direct any inquiries or comments to e-mail: bt-environ@pub.konicaminolta.jp



Marking technologies Electrophotographic Printer (EP)

70 prints-per-minute(B/W), 70 prints-per-minute(color) Printing speed

Maximum copy paper A3

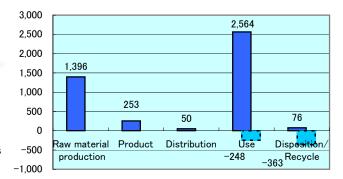
Duplex copying Non-stack ADU equipped

Life Cycle Impact

Consumption and discharge in a life cycle	All the stage sum totals
Global warming(CO ₂ equivalent):kg	4,339
alobal warning(002cquivalent).kg	(3,728)
Acidification(SO ₂ equivalent):kg	6.8
/tolullication(00 2equivalent).ng	(5.6)
Energy resources(crude oil equivalent):MJ	81,400
Energy resources(crude on equivalent/.ivio	(70,034)

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

Warming load CO₂ equivalent of each stage (kg)





Total of 3,024,600 sheets on the assumption of five years usage.

Environmental impact by copypaper is not included.

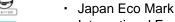
XADF, Paper feed unit, Relay unit, Finsher is optional.

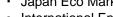
- 1. Original LCA data is available on PEIDS: Product Environmental Information Declaration Sheet, and Product Data Sheet.
- 2. Unified rules and requirements for EcoLeaf LCA, for intended product category, are available as a PCR: Product Category Rule. Visit EcoLeaf website under JEMAI homepage at http://www.ecoleaf-jemai.jp/eng/ 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.

[Supplemental environmental information]



Certified Environmental Standards





- International Energy Star Program
- Conforming to Japanese Law on Promoting Green Purchasing

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: The 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.

Product Environmental Information Data Sheet (PEIDS)

		_
Document control no.	F-02B-03	Unit Function
Product vendor	KONICAMINOLTA,INC.	Characterization Fact
EcoLeaf registration no.	AD-13-205	

Unit Function DB version 2.1

Characterization Factor DB version 2.1



	DC	R name	EP and IJ print	or	Draduet tune					
		R-ID	AD-04	C1	Product type Product weight[kg]	280.0	Package[kg]	nub PRESS C1 41.2	Weight total[kg]	321.2
	1 0	T ID	AD 04		Froduct weight[kg]	280.0	Fackage[kg]	41.2	weight total[kg]	321.2
	_		Life Cycle Stage	Unit	Produ		Distribution	Use	Disposal	Recycle
In/Ou	t ite	ms			Raw material	Product			·	
		Energy Co	onsumption	MJ	2.17E+04	4.87E+03	6.77E+02	5.40E+04	1.76E+02	-1.14E+04
			·	Mcal	5.18E+03	1.16E+03	1.62E+02	1.29E+04	4.19E+01	−2.71E+03
			Coal	kg	2.62E+02	2.98E+01	1.58E-03	2.81E+02	8.09E-01	-1.26E+02
		Energy	Crude oil (as a fuel)	kg	1.77E+02	3.75E+01	1.48E+01	3.54E+02	2.07E+00	−7.30E+01
			Natural Gas	kg	4.26E+01	1.72E+01	2.28E-01	1.52E+02	4.25E-01	-1.42E+01
			Uranium ore	mg	3.93E-03	2.02E-03	1.07E-07	1.27E-02	5.47E-05	-6.51E-04
			Crude oil (as an	kg	3.95E+01	0	0	2.15E+02	0	
			ingredients)						-	-7.03E+01
			Iron ore	kg	2.17E+02	0	0	6.57E+01	0	-1.13E+02
	Resource Consumption from the environment		Copper ore	kg	4.74E+00	0	0	3.26E-03	0	-1.50E+00
		Exhaustible resources	Bauxite	kg	1.07E+01	0	0	1.15E+01	0	-8.88E+00
			Nickel ore	kg	1.51E+00	0	0	2.68E+00	0	-1.68E+00
	onsu		Chromium ore	kg	2.12E+00	0	0	3.65E+00	0	-2.31E+00
•	ce C	ш =	Manganese ore	kg	1.32E+00	0	0	7.80E-01	0	-3.09E-01
	sourc	Material	Plumbous ore	kg	1.95E-01	0	0	0	0	-4.81E-02
1	Re #		Tin ore	kg	0	0	0	0	0	0
			Zinc ore	kg	1.92E+00	0	0	0	0	-4.73E-01
			Gold ore	kg	0	0	0	0	0	0
			Silver ore	kg	0	0	0	0	0	0 175.00
			Silica sand	kg	8.01E+00	0	0	7.44E-01	0	-2.17E+00
es			Rock salt	kg	2.62E+01	2.77E-02	0	7.54E+00	1.20E-01	-1.23E+01
nventory analyses			Limestone Natural soda ash	kg	4.45E+01	0	0	1.45E+01	8.07E-01	-1.87E+01
ıry ar			Wood	kg	5.61E-01	0	0	0.00E+00	0	-1.58E-01
/entc		Renewable resources	Water	kg	6.01E+01	0 705 : 04	-	5.28E+01	0	-4.52E+01 -3.31E+04
≦ _			CO2	kg	1.09E+05	2.79E+04	1.20E+00 4.81E+01	1.74E+05	6.55E+02	
				kg	1.37E+03	2.50E+02		2.49E+03	7.58E+01	-5.96E+02
			SOx NOx	kg	1.10E+00	1.82E-01	2.62E-02	1.98E+00	4.20E-02	-5.91E-01
			NOX N2O	kg	1.49E+00	1.83E-01	1.76E-01	2.99E+00	1.20E-01	-8.20E-01
		to Atmosphoro	CH4	kg kg	9.52E-02 1.03E-02	1.24E-02	8.81E-03	2.83E-01	1.91E-04	-5.52E-02
		to Atmosphere	CO CO		2.48E-01	5.39E-03 3.63E-02	2.87E-07 3.56E-02	3.36E-02 4.55E-01	1.47E-04 2.94E-02	-1.57E-03 -1.36E-01
			NMVOC	kg	2.48E-01 2.02E-02	1.06E-02	5.61E-07	6.58E-02	2.94E-02 2.87E-04	-3.07E-03
	Φ		CxHy	kg kg	4.64E-02	2.97E-03	6.05E-03	8.21E-02	1.03E-03	-3.07E-03 -2.67E-02
	harg		dust	kg	1.83E-01	1.07E-02	1.81E-02	2.44E-01	7.28E-03	-1.09E-01
li	Disc		BOD	kg	1.03E-01	1.07E-02	1.01E-02	2.44E-01	7.20E-03	-1.09E-01
	sion.		COD	kg	_	_	_		_	
	Emission/Discharge to the environment	to Water system	N total	kg	_		_		_	
			P total	kg	_		_		_	
			SS	kg	_	_	_	_	_	_
			Unspecified solid waste	kg	7.16E+00	1.71E-01	0	7.60E+01	1.47E+02	-5.02E+00
			Slag	kg	6.89E+01	0	0	2.17E+01	0	-3.39E+01
		to Soil system	Sludge	kg	2.07E+01	0	0	2.48E+01	0	-1.82E+01
			Low emission	kg	2.75E-03	1.41E-03	7.49E-08	8.83E-03	3.82E-05	
			radioactive waste	ng.	2.70L 00	1.712 00	7.402 00	0.00L 00	0.021 00	-4.55E-04
	Consumption		Energy resources (crude oil equivalent)	kg	4.29E+02	9.39E+01	1.51E+01	8.21E+02	3.55E+00	-1.76E+02
	irce Con	Exhaustible resources	Mineral resources	kg	2.47E+03	0	0	2.33E+03	0	-1.78E+03
nent	by Resource		(Iron ore equivalent)		22		,		,	32 . 03
sesu			Global warming	kg	1.40E+03	2.53E+02	5.05E+01	2.56E+03	7.59E+01	-6.11E+02
ass	npti	to	(CO2 equivalent) Acidification							-1.17E+00
Impact assesment	nsuc	Atmosphere	(SO2 equivalent)	kg	2.14E+00	3.10E-01	1.49E-01	4.07E+00	1.26E-01	-1.1/E+00
Ξ	Emision Consumption	to Water								
	misi	system								
	by Er	to Soil system								
	77	0,00011								

[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)
- C. "Use" stage is intended for use of the product (active mode, standby mode, etc.) and production, transportation to disposal/recycle of consumables D. "Disposition/Recycle" stage is intended for environmental impacts by product disposition/recycle, and deduction by recycling
- E. "Recycle Effect" illustrates an indirect environmental influences to other products/services by use of reclaimed materials/parts, and/or by supply of Case 1: Use of reclaimed materials/parts: Sum of increase of environmental impact by collection activities of used materials/parts, and decrease Case 2: Supply of used products to other businesses for material reclaim/parts reuse: Sum of increase of environmental impact by materials/parts

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,

 C. Data of discharge to water system are in actual figure (not calculated using unit function in inventory 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 "0" instead exponential notation, if the result of calculation or estimation is considered as "zero" or negligible in comparison to related results.

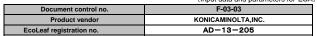
 C. Indicate "-" if calculation nor estimation can not be done, in order to differentiate to indicate "zero".
- - (BGD for material production are for production from mineral ore. Those data do not include reclaiming processes like recovery from scrap.)

[Notes for readers: Target product specific]

- A. "Raw material" in "Production" includes environmental impacts generated during mining transportation material production phases of the main body
- B. " Product" in "production" includes environmental impacts of processing of the parts (injection, blow-, press- and glass-molding).
- C. Regarding the basis and the basic units for calculations during distribution stages
 D. Regarding the basis and the basic units for calculations during use and consumption stage
- E. The recycling impacts are calculated assuming that 40% of the end-of-life printers are recovered from users according to PCR (AD-04).
- F. The impacts of material production of recycled materials are included in the values with minus as a recycling effect.

Product data sheet

(Input data and parameters for LCA)





PCR name	EP and IJ printer (PCR-ID:AD-04)	EP and IJ printer (PCR-ID:AD-04)			bizhub PRESS C1070			
LCA/LCIA in units of:	1	Product weight[kg]	280.0	Package[kg]	41.2	Weight total[kg]	321.2	

1. Product information (per unit): parts etc. by material and by process/assembly method

	Breakdown of primar	Math breakdown of pa	rts, which need to appl	ly Processing / Assembly	Base Units (Parts B, C		
Material name	Weight (kg)	Material name	Weight (kg)	Process name	Weight (kg)	Process name	Weight (kg)
Ordinary steel	2.05E+02	Rubber	1.46E+00	Press molding:lron	2.01E+02	Parts assembly	1.78E+00
Stainless steel	9.54E+00	Semiconductor circuit board	1.01E+01	Press molding:Nonfer rous metal	1.25E+01		
Aluminium	9.13E+00			Injection molding	3.58E+01		
Other metals	3.33E+00			Blow molding	1.02E+00		
Glass	3.70E+00			Glass molding	3.70E+00		
Thermoplastic resin	4.15E+01						
Wood	1.66E+01						
Paper	2.04E+01						
Subtotal	3.10E+02	Subtotal	1.16E+01				
	Total					Subtotal	1.78E+00

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.

30x and	OX and NOX should be indicated in 302, NO2 equivalent.									
c	Classification	Energy	Energy	Energy	Energy	Material	Material			
ptio	Distribution	Electricity	Heavy oil as	Diesel oil as	Furnace urban	Industrial	Groundwater			
Ę		(kWh)	fuel(kg)	fuel(kg)	gas (m³)	water(kg)	(kg)			
Cons	Quantity	2.41E+02	3.42E+00	1.30E-01	2.77E+00	4.53E+03	6.28E+02			
O	Note									
Emission/ Discharge	Classification	To Water system								
	Distribution	Sewage(kg)								
	Quantity	4.78E+03								
	Note									

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

Distribution		Means of transportation	Freight by ship	Diesel truck	Diesel truck			
	tion			:20ton	:2ton			
	rigin	Conditions	Load(kg•km)	Load(kg·km)	Load(kg·km)			
	Dis	Quantity	8.22E+05	8.15E+04	1.50E+03			
		Note						

Use stage (per unit): use condition (mode, term) including active mode, standby mode and maintenance.
 1.1 Product and accessories subject to this analysis

	ot and acception outsjoot to the								
	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
ಕ	Distribution	Electricity	Heavy oil as	Diesel oil as	Gasoline as	Furnace urban	Industrial	Groundwater	Ordinary steel
Product	Distribution	(kWh)	fuel(kg)	fuel(kg)	fuel(kg)	gas (m³)	water(kg)	(kg)	(kg)
- P	Quantity	2.98E+03	1.66E+00	6.31E-02	2.31E+00	5.62E+01	2.20E+03	8.24E+03	5.80E+01
	Note								
Product	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Processing
	Distribution	Stainless steel (kg)	Aluminium (kg)	Copper(kg)	Thermoplastic resin(kg)	Wood(kg)	Paper(kg)	Rubber(kg)	Press:Iron(kg)
	Quantity	1.69E+01	1.09E+01	1.08E-02	2.11E+02	8.13E-01	2.44E+01	7.47E+00	8.19E+01
	Note								
	Classification	Processing	Processing	Processing	Assembly	To Water system			
Product	Distribution	Press: Nonferrous(kg)	Injection molding(kg)	Blow molding (kg)	Parts assembly (kg)	Sewage(kg)			
Ā	Quantity	3.87E+00	5.40E+01	5.15E+01	5.15E+01	8.42E+03			
	Note								
	Classification	Distribution	Distribution	Distribution					
Product	Distribution	Freight by ship (kg·km)	Diesel truck: 20ton (kg•km)	Diesel truck: 10ton (kg•km)					
	Quantity	3.22E+04	1.16E+04	3.70E+04					
	Note						-		

4.2 Disp	P Disposition/Recycle information on consumables and replacement parts									
S.	Classification	Consumption	Consumption	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	
Consumables	Distribution	Electricity (kWh)	Kerosene(kg)	Recycle: to iron(kg)	Recycle: to Aluminum(kg)	Recycle: to copper(kg)	Recycle: to plastics(kg)	Recycle: to Paper(kg)	Industrial waste destruction by fire(kg)	
Su S	Quantity	4.66E+00	7.10E-02	3.00E+01	4.37E+00	4.32E-03	5.72E+01	1.01E+01	2.99E+00	
O	Note									
	Classification	Treatment	Treatment	Treatment	Deduction	Deduction	Deduction	Deduction	Deduction	
Consumables	Distribution	Industrial waste inning(kg)	Waste destruction by fire(kg)	Waste inning(kg)	Iron(kg)	Aluminum(kg)	Copper(kg)	Plastics(kg)	Paper(kg)	
Š	Quantity	5.78E-01	1.06E+02	5.15E+01	-3.00E+01	-4.37E+00	-4.32E-03	-5.72E+01	-1.01E+01	
	Note									
	Classification	Distribution	Distribution							
Consumables	Distribution	Diesel truck: 10ton (kg•km)	Diesel truck: 4ton (kg•km)							
Ö	Quantity	1.26E+04	1.53E+04							
	Note									

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

J. Disposi	. Disposition/Recycle stage information (per product): process method and scenarios									
S	Classification	Consumption	Consumption	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment	
umables	Distribution	Electricity (kWh)	Kerosene(kg)	Recycle: to iron(kg)	Recycle: to Aluminum(kg)	Recycle: to copper(kg)	Recycle: to Glass(kg)	Recycle: to plastics(kg)	Recycle: to Paper(kg)	
Const	Quantity	5.68E+00	8.67E-02	8.59E+01	3.65E+00	2.70E+00	1.48E+00	1.64E+01	1.62E+01	
0	Note									
	Classification	Treatment	Treatment	Treatment	Treatment	Treatment	Deduction	Deduction	Deduction	
nsumables	Distribution	Recycle: to Assembled circuit board(kg)	Incineration: Industrial waste(kg)	Landfill: Industrial waste(kg)	Incineration to landfill (as ash)(kg)	Landfill: General waste(kg)	Iron(kg)	Aluminium (kg)	copper(kg)	
Consi	Quantity	1.37E+00	3.05E+00	5.10E-01	4.80E+01	1.39E+02	-8.59E+01	-3.65E+00	-2.70E+00	
	Note									
	Classification	Deduction	Deduction	Deduction	Deduction	Distribution	Distribution			
nsumables	Distribution	Glass(kg)	Plastics(kg)	Paper(kg)	Recycle: to Assembled circuit board(kg)	Diesel truck: 10ton (kg•km)	Diesel truck: 4ton (kg•km)			
Son	Quantity	-1.48E+00	-1.64E+01	-1.62E+01	-1.37E+00	1.54E+04	1.87E+04			
	Note									

6. Others

A.Product information:

All the parts mass per unit sorted by materials and by processes/assembly are included. The motor mass is included in ordinary steel.

B.Production site information:

The energy consumption & material use during the main body assemby and cartridge & toner shipment are included. The environmental impacts that are exhausted from the production site in the atmosphere and the water system are included.

C.Distribution stage information:

The total distance of the transportation in Japan of 100km is used according to PCR (AD-04) and the transportation overseas includes the transportation by track in China and by ship between China and Japan.

D. Product and accessories subject to this analysis:

The power consumption is calculated assuming the use period of five years and 3,024,600 sheets printed during the use period according to the PCR (AD-04).

The toner consumption is summed up over the five years from the toner consumption data per sheet using our print pattern with 5% coverage.

The production impacts of the cartridges and toner used during the use period of five years are included.

The impacts of the maintenance parts used and the transportation impacts of the maintenace during the use period of five years are included in this stage.

E. Disposal/Recycle information on the consumables and the maintenance parts during use stage:

The recycling information of the toner, the developer, the drums and the maintainance parts used during the use period of five years are included

The recycling processing impacts are included as plus and the production impacts of the recycled materials are included as minus.

F.Disposal/Recycle stage information:

The information on the products recovered from users is included.

The recycling processing impacts are included as plus and the production impacts of the recycled materials are included as minus.