Product Environmental Aspects Declaration

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



No. AD-16-E720 Date of publication Jul./20/2016



http://konicaminolta.jp

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



Total of 5,415,000 sheets on the assumption of five years usage.

Environmental impact by copypaper is not included.

		958

Marking technologies Electrophotographic Printer (EP)

Printing speed 95 prints-per-minute(B/W)

Maximum copy paper A3

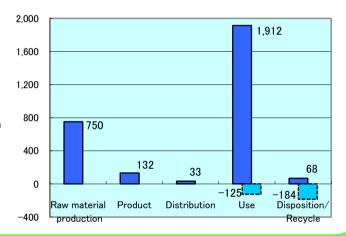
Duplex copying Non-stack ADU equipped

Life Cycle Impact

Consumption and discharge in a life cycle	All the stage sum totals
Global warming(CO₂equivalent):kg	2,895
alobal warming(0020quivalone).ikg	(2,585)
Acidification(SO ₂ equivalent):kg	4.2
, totalitousion(555254arvatoris).ng	(3.8)
Energy resources(crude oil equivalent):MJ	54,135
Energy resources(orduc on equivalency	(49,110)

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

Warming load CO₂ equivalent of each stage (kg)



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.

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[Supplemental environmental information]

- Certified Environmental Standards
 - · International Energy Star Program

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

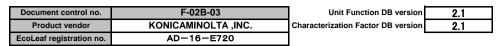
Independent verification of the declaration and data, according to ISO14025 □internal ■external Third party verifier: The third party verifier *: Kazuo Naito

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.

Product Environmental Information Data Sheet (PEIDS)





	PCF	R name	9	EP and IJ print	er	Product type			bizhub 958		
	PC	R-ID		AD-04		Product weight[kg]	201.0	Package[kg]	29.2	Weight total[kg]	230.2
				Life Cycle Stage		Produ	ection				
I= /O	ut ite			Life Cycle Stage	Unit	Raw material	Product	Distribution	Use	Disposal	Recycle
111/01	ut ite	1115						4.505.00	0.015.04	1.045.00	E 00E : 00
		Ene	rgy Co	onsumption	MJ	1.20E+04	2.49E+03	4.52E+02	3.91E+04	1.34E+02	-5.02E+03
				01	Mcal	2.86E+03	5.96E+02	1.08E+02	9.34E+03	3.20E+01	-1.20E+03
				Coal	kg	1.50E+02	1.68E+01	1.06E-03	1.96E+02	6.40E-01	−6.94E+01
		Er	nerav	Crude oil (as a fuel)	kg	9.22E+01	1.90E+01	9.88E+00	2.78E+02	1.56E+00	−3.42E+01
				Natural Gas	kg	1.93E+01	8.67E+00	1.53E-01	1.13E+02	3.35E-01	−6.45E+00
				Uranium ore	mg	1.81E-03	1.14E-03	7.15E-08	9.69E-03	4.33E-05	-2.71E-04
				Crude oil (as an ingredients)	kg	3.37E+01	0	0	1.24E+02	0	−2.05E+01
				Iron ore	kg	1.48E+02	0	0	4.67E+01	0	-7.32E+01
				Copper ore	kg	3.49E+00	0	0	2.21E-03	0	-1.24E+00
				Bauxite	kg	2.13E+00	0	0	4.97E+00	0	-2.83E+00
	io t	e s		Nickel ore	kg	4.14E-01	0	0	6.75E-01	Ö	-4.35E-01
	nme	Exhaustible resources		Chromium ore			0	0		0	
	onst	xhar			kg	6.08E-01			9.30E-01		-6.14E-01
	Resource Consumption from the environment	ш -		Manganese ore	kg	7.94E-01	0	0	3.57E-01	0	-1.02E-01
		Ma	aterial	Plumbous ore	kg	1.32E-01	0	0	0	0	-4.21E-02
	Res			Tin ore	kg	0	0	0	0	0	0
				Zinc ore	kg	1.30E+00	0	0	0	0	-4.14E-01
				Gold ore	kg	0	0	0	0	0	0
				Silver ore	kg	0	0	0	0	0	0
				Silica sand	kg	4.34E+00	0	0	5.47E-01	0	-1.25E+00
				Rock salt	kg	2.43E+01	2.46E-03	0	3.54E+00	8.02E-02	-5.10E+00
/ses				Limestone	kg	2.88E+01	0	0	1.02E+01	6.58E-01	-1.19E+01
Inventory analyses				Natural soda ash	kg	2.59E-01	0	0	3.97E-04	0	-7.99E-02
tony a		Renewab	nle	Wood	kg	4.14E+01	0	0	1.44E+02	0	-7.41E+01
vent		resources		Water	kg	4.11E+04	1.33E+04	7.93E-01	1.29E+05	5.23E+02	-1.36E+04
드				CO2	kg	7.37E+02	1.31E+02	3.21E+01	1.86E+03	6.75E+01	-3.04E+02
				SOx	kg	4.35E-01	9.98E-02	2.37E-02	1.29E+00	3.68E-02	-2.12E-01
				NOx		7.59E-01	8.05E-02	2.24E-01	2.20E+00	9.81E-02	
		to Atmosphere		N2O	kg						-3.63E-01
				CH4	kg	4.83E-02	2.27E-03	4.36E-03	2.01E-01	1.44E-04	-2.17E-02
		to Atmos	priere		kg	4.81E-03	3.04E-03	1.91E-07	2.58E-02	1.16E-04	-6.74E-04
				СО	kg	1.22E-01	1.95E-02	7.29E-02	3.22E-01	2.30E-02	-5.52E-02
				NMVOC	kg	9.40E-03	5.97E-03	3.75E-07	5.05E-02	2.27E-04	-1.32E-03
	arge			СхНу	kg	2.62E-02	4.47E-04	5.72E-03	5.88E-02	7.39E-04	-1.14E-02
	isch			dust	kg	9.72E-02	4.28E-03	1.98E-02	1.65E-01	5.97E-03	-4.56E-02
	D/U			BOD	kg	-	ı	-	-	-	-
	Emission/Discharge to the environment			COD	kg	-	-	-	-	-	-
	를 라	to Water	system	N total	kg	-	ı	-	ı	-	-
				P total	kg	-	-	-	-	-	-
				SS	kg	_	_	-	-	-	_
				Unspecified solid waste	kg	3.89E+00	1.85E-02	0	5.38E+01	9.91E+01	-2.11E+00
				Slag	kg	4.60E+01	0	0	1.46E+01	0	-2.15E+01
		to Soil sys	stem	Sludge	kg	2.79E+00	0	0	1.07E+01	0	-5.38E+00
		,		Low emission				-			
				radioactive waste	kg	1.27E-03	7.96E-04	5.00E-08	6.76E-03	3.02E-05	-1.89E-04
	Consumption			Energy resources (crude oil equivalent)	kg	2.26E+02	4.96E+01	1.01E+01	6.19E+02	2.73E+00	-8.87E+01
٦t	by Resource Cons	resou		Mineral resources (Iron ore equivalent)	kg	1.22E+03	0	0	6.66E+02	0	-6.78E+02
ner	by Re										
sesi				Global warming (CO2 equivalent)	kg	7.50E+02	1.32E+02	3.32E+01	1.91E+03	6.75E+01	-3.09E+02
tas	ımpti	to		Acidification (SO2 equivalent)	kg	9.66E-01	1.56E-01	1.81E-01	2.83E+00	1.05E-01	-4.66E-01
Impact assesment	Consumption	- Tunos	J.1.010	(OOL equivalent)							
트	Emision C	to Wa									
	Ë	to S									
	by E	syste									

[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.

- 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

- 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.)

* 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.

[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 of the printer and the toner cartridge enclosed in the printer. The environmental impacts are calculated using the eco-leaf basic unit DB for calculations.
- B. " Product" in "production" includes environmental impacts of processing of the parts (injection, blow-, press- and glass-molding). The environmental impacts from the parts assembly plant which is different from the main body assembly plant (such parts are clacified in "parts C") are calculated using the eco-leaf basic unit DB for calculations.

The impacts from the main body assembly plant are calculated using the quantitative data on environmental impacts in our assembly plant.

C. Regarding the basis and the basic units for calculations during distribution stages

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.

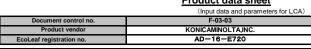
D. Regarding the basis and the basic units for calculations during use and consumption stage

The power consumption is measured by the TEC test procedure according to PCR (AD-04). 5,415,000 sheets are printed in total during the use period of five

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 loads and the collection & recycling impacts of the toner cartridges used over the five years are included in this 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). The impacts are calculated with the remaining 60% following the disposal senario as general wastes.
- F. The impacts of materilal production of recycled materials are included in the values with minus as a recycling effect,

Product data sheet





PCR name	EP and IJ printer (PCR-ID:AD-04)	Product type	bizhub 958				
LCA/LCIA in units of:	1	Product weight[kg]	201.0	Package[kg]	29.2	Weight total[kg]	230.2

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

	Breakdown of pr	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)
Ordinary steel	1.41E+02	Rubber	8.67E-01	Press molding:Iron	1.34E+02		
Stainless steel	2.60E+00	Semiconductor circuit board	3.61E+00	Press molding:Nonferrou s metal	4.96E+00		
Aluminium	1.23E+00			Injection molding	4.81E+01		
Other metals	3.73E+00						
Glass	2.02E+00						
Thermoplastic resin	4.81E+01						
Wood	1.33E+01						
Paper	1.32E+01						
Subtotal	2.25E+02	Subtotal	4.48E+00				
	Total		2.30E+02	Subtotal	1.87E+02	Subtotal	

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

SOx and	SOx and NOx should be indicated in SO2, NO2 equivalent.										
c	Classification	Energy	Energy	Material	Material						
sumptio	Distribution	Electricity (kWh)	Furnace urban gas (m³)	Industrial water(kg)	Groundwater (kg)						
io.	Quantity	8.74E+01	3.13E-01	4.90E+02	2.69E+01						
Ö	Note										
Emission/ Discharge	Classification	To Water system									
rissi	Distribution	Sewage(kg)									
Er Dis	Quantity	4.25E+02									
	Note										
. Distribu	Distribution stage information (per unit): means, distance, loading ratio, consumptions and emissions/discharges.										
ion	Means of transportation	Freight by ship	Diesel truck :20ton	Diesel truck :2ton							

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

1.1 Produ	uct and accessories subject to th	nis analysis							
	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
oduct	Distribution	Electricity (kWh)	Gasoline as fuel(kg)	Furnace urban gas (m³)	Industrial water(kg)	Groundwater (kg)	Ordinary steel (kg)	Stainless steel (kg)	Aluminium (kg)
ď	Quantity	2.30E+03	3.08E+00	4.09E+01	1.74E+02	6.01E+03	4.37E+01	4.27E+00	4.70E+00
Product Product Product	Note								
	Classification	Consumption	Consumption	Consumption	Consumption	Processing	Processing	Processing	Processing
Product	Distribution	Thermoplastic resin(kg)	Paper(kg)	Rubber(kg)	Semiconductor circuit board(kg)	Press:Iron(kg)	Press: Nonferrous(kg)	Injection molding (kg)	Blow molding (kg)
	Quantity	1.24E+02	6.52E+01	2.83E+00	1.60E-02	3.58E+01	2.80E+00	3.55E+01	5.47E+01
	Note								1
	Classification	Assembly	To Water system						
Product	Distribution	Parts assembly (kg)	Sewage(kg)						
	Quantity	5.47E+01	4.45E+03						
	Note								
	Classification	Distribution	Distribution	Distribution					
Product	Distribution	Freight by ship (kg·km)	Diesel truck: 20ton (kg•km)	Diesel truck: 10ton (kg•km)					
_	Quantity	3.95E+05	6.17E+04	3.02E+04					
	Note								
1.2 Dispo	sition/Recycle information on co	onsumables and repl	acement parts						
	Classification	Consumption	Consumption	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment
sumables	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

	Classification	Consumption	Consumption	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment
nsumables	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)
Ö	Quantity	2.92E+00	5.45E-02	1.50E+01	1.88E+00	2.18E-03	1.40E+01	2.81E+01	2.06E+00
	Note								
	Classification	Treatment	Treatment	Treatment	Deduction	Deduction	Deduction	Deduction	Deduction
nsumables			Waste destruction by fire(kg)	Waste inning(kg)	Iron(kg)	Aluminum(kg)	Copper(kg)	Plastics(kg)	Paper(kg)
Ŝ	Quantity	1.42E-01	6.51E+01	3.92E+01	-1.50E+01	-1.88E+00	-2.18E-03	-1.40E+01	-2.81E+01
	Note								
	Classification	Distribution	Distribution						
nsumables	Distribution	Diesel truck: 10ton (kg•km)	Diesel truck: 4ton (kg•km)						
Co	Quantity	8.35E+03	1.01E+04						
	Note								

les	Classification	Consumption	Consumption	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment
sumable	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)
Silo	Quantity	3.88E+00	7.24E-02	5.78E+01	4.91E-01	1.99E+00	8.06E-01	8.75E+00	1.11E+01
ŏ	Note								
	Classification	Treatment	Treatment	Treatment	Treatment	Deduction	Deduction	Deduction	Deduction
nsumables	Distribution	Incineration: Industrial waste(kg)	Landfill: Industrial waste(kg)	Incineration to landfill (as ash)(kg)	Landfill: General waste(kg)	Iron(kg)	Aluminium (kg)	copper(kg)	Glass(kg)
Co	Quantity	1.28E+00	2.74E-01	4.53E+01	9.18E+01	−5.78E+01	-4.91E-01	-1.99E+00	-8.06E-01
	Note								
	Classification	Deduction	Deduction	Distribution	Distribution				
nsumables	Distribution	Plastics(kg)	Paper(kg)	Diesel truck: 10ton (kg•km)	Diesel truck: 4ton (kg•km)				
Co	Quantity	-8.75E+00	-1.11E+01	1.11E+04	1.34E+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 5,415,000 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.

G. 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.