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)

Printing speed 125 prints-per-minute(B/W)

Maximum copy paper A3

<u>Duplex copying</u> Non-stack ADU equipped

Document feeding ADF with Auto-document reversing function equipped

Life Cycle Impact

Elle Oyele Impaet									
Consumption and discharge in a life cycle	All the stage sum totals								
Global warming(CO2equivalent):kg	5,569 (5,003)								
Acidification(SO2equivalent):kg	7.9 (6.9)								
Energy resources(crude oil equivalent):MJ	106,837 (97,888)								

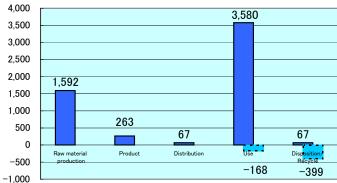
**Figures in() indicated environmental impact including recycle effect *note3

Warming load CO₂ equivalent of each stage(kg)



Total of 9,375,000 sheets on the assumption of five years usage.

Environmental impact by copypaper is not included.



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.

[Supplemental environmental information]



- Certified Environmental Standards
 - Japan Eco Mark
 - 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*: Shozo Nakamuta

 $Programme\ operator\hbox{:}\ Japan\ Environmental\ Management\ Association\ for\ Industry,\ ecoleaf@jemai.or.jp$

^{*} 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 DB version	v2.1
Product vendor	KONICA MINOLTA, INC.	Characterization Factor DB version	v2.1
EcoLeaf registration no.	AD-12-187	7	



DCD name ED and I I printer Draduct to									and and	
		R name	EP and IJ print	er	Product type		bizl	nub PRESS12	50P	
	PC	R-ID	AD-04		Product weight[kg]	345.0	Package[kg]	42.5	Weight total[kg]	387.5
			Life Cycle Stage		Produ	ıction	<u> </u>			
In/O	ut ite	ms		Unit	Raw material	Product	Distribution	Use	Disposal	Recycle
,				MJ	2.35E+04	4.96E+03	9.04E+02	7.72E+04	2.29E+02	-8.95E+03
		Energy	Consumption	Mcal	5.61E+03	1.19E+03	2.16E+02	1.84E+04	5.46E+01	-2.14E+03
			Coal		3.32E+02	3.20E+01	2.11E-03	4.62E+02	1.03E+00	-1.40E+02
			Crude oil (as a fuel)	kg	1.80E+02	4.00E+01	1.98E+01	5.14E+02	2.59E+00	
		Energ	Natural Gas	kg						-5.28E+01
			Uranium ore	kg	4.27E+01	1.62E+01	3.05E-01	2.11E+02	5.41E-01	-1.29E+01
		-	Crude on (as an	mg	4.58E-03	2.16E-03	1.43E-07	2.65E-02	6.99E-05	-6.27E-04
			ingradients)	kg	2.55E+01	0	0	6.18E+01	0	-2.88E+01
			Iron ore	kg	3.07E+02	0	0	2.33E+01	0	-1.32E+02
			Copper ore	kg	5.20E+00	0	0	2.71E-03	0	-1.61E+00
			Bauxite	kg	3.33E+00	0	0	1.97E+01	0	-9.21E+00
	tion	e Si	Nickel ore	kg	2.40E+00	0	0	8.86E-01	0	-1.32E+00
	dung	unstit	Chromium ore	kg	3.35E+00	0	0	1.21E+00	0	-1.82E+00
	Cons	Exhaustible resources	Manganese ore	kg	1.94E+00	0	0	2.66E-01	0	-2.74E-01
	Resource Consumption from the environment	Material	Plumbous ore	kg	2.26E-01	0	0	0	0	-5.43E-02
	eson		Tin ore	kg	0	0	0	0	0	0
	ž =		Zinc ore	kg	2.22E+00	0	0	0	0	-5.34E-01
			Gold ore	kg	0	0	0	0	0	0
			Silver ore	kg	0	0	0	0	0	0
			Silica sand	kg	6.93E+00	0	0	4.84E-01	0	-1.39E+00
			Rock salt	kg	1.61E+01	3.94E-03	0	4.94E+00	1.56E-01	-7.00E+00
ses			Limestone	kg	6.21E+01	0	0	5.62E+00	7.27E-01	-2.17E+01
naly			Natural soda ash	kg	3.04E-01	0	0	2.52E-02	0	-5.14E-02
inventory analyses		Renewable	Wood	kg	6.33E+01	0	0	5.64E+01	0	-4.79E+01
vent		resources	Water	kg	1.10E+05	2.89E+04	1.59E+00	3.40E+05	8.18E+02	-3.33E+04
ڪ			CO2	kg	1.57E+03	2.61E+02	6.42E+01	3.55E+03	6.71E+01	-5.56E+02
			SOx	kg	9.62E-01	1.95E-01	3.92E-02	3.24E+00	3.84E-02	-5.62E-01
			NOx	kg	1.42E+00	1.78E-01	3.06E-01	2.89E+00	1.20E-01	-6.62E-01
			N2O	kg	8.90E-02	5.61E-03	1.07E-02	9.25E-02	2.32E-04	-3.91E-02
		to Atmosphe	e CH4	kg	1.22E-02	5.78E-03	3.83E-07	7.05E-02	1.87E-04	-1.51E-03
			со	kg	2.44E-01	3.78E-02	8.07E-02	6.47E-01	3.20E-02	-1.36E-01
			NMVOC	kg	2.38E-02	1.13E-02	7.50E-07	1.38E-01	3.66E-04	-2.94E-03
	ge		СхНу	kg	4.70E-02	1.95E-03	9.21E-03	3.16E-02	1.23E-03	-1.97E-02
	schar		dust	kg	1.89E-01	1.14E-02	2.94E-02	2.07E-01	7.49E-03	-9.13E-02
	Emission/Discharge to the environment		BOD	kg	-	-	-	2.07L 01	7.432 00	- 3.10L 0Z
	ission he et		COD	kg	_	_	_	_	_	_
	Emi	to Water sys		kg	_	_	_	_	_	
			P total	kg	_	_	_		_	
			SS	kg kg	_	_	_		_	
			Unspecified solid waste	kg	5.21E+00	6.83E-02	0	4.39E+01	1.92E+02	-4.48E+00
			Slag	kg kg	9.76E+01	0.63E-02	0	7.63E+00	0	-3.93E+01
		to Soil syster					0		0	
			Sludge Low emission	kg	4.83E+00	0		4.23E+01		-1.89E+01
			radioactive waste	kg	3.20E-03	1.51E-03	1.00E-07	1.85E-02	4.88E-05	-4.39E-04
			Energy resources		4 005 : 00	0.775+01	0.015:01	1.005.00	4.405:00	
	urce	Fub	(crude oil equivalent)	kg	4.82E+02	9.77E+01	2.01E+01	1.28E+03	4.48E+00	−1.63E+02
Ħ	by Resource Consumption	Exhaustil resource	Willieral resources	kg	3.37E+03	0	0	8.04E+02	0	-1.52E+03
me	by f	resource	(Iron ore equivalent)	-,6	0.072.00	•	,	0.0 12 . 02	J	1.022.00
ses			Olahai .							
ass	-		Global warming (CO2 equivalent) Acidification	kg	1.59E+03	2.63E+02	6.71E+01	3.58E+03	6.71E+01	−5.67E+02
Impact assesment	by Emision	to Atmosph		kg	1.96E+00	3.20E-01	2.54E-01	5.26E+00	1.22E-01	-1.03E+00
npa	mis	Atmosph	SIE (OOZ SQUIVAIEIL)							
Ξ	by Emisio Consumpti	to Wate								
	ල් දු	system to Soil								
		system								

[Notes for readers: EcoLeaf common rules]

- 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
- 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).

III Impact analyses

II. 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)

Document control no.	F-03-03
Product vendor	KONICA MINOLTA, INC.
EcoLeaf registration no.	AD-12-187



PCR name	EP and IJ printer(PCR-	Product type	bizhub PRESS1250P				
LCA/LCIA in units of:	1	Product weight[kg]	345.0	Package[kg]	42.5	Weight total[kg]	387.5

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

	Breakdown	of primary materials		Math breakdown of part	ts, which need to apply	Processing / Assembly I	Base Units (Parts B, C)
Material name	Weight (kg)	Material name	Weight (kg)	Process name	Weight (kg)	Process name	Weight (kg)
Ordinary steel	2.90E+02	Semiconductor circuit board	1.23E+01	Press molding:Iron	2.93E+02	Parts assembly	6.35E-01
Stainless steel	1.52E+01			Press molding:Nonf errous metal	5.75E+00		
Aluminium	2.13E+00			Injection molding	2.18E+01		
Other metals	3.62E+00			Blow molding	3.73E-01		
Thermoplastic resin	2.44E+01						
Wood	1.51E+01						
Paper	2.26E+01						
Rubber	1.78E+00						
Subtotal	3.75E+02	Subtotal	1.23E+01				
	Total		3.88E+02	Subtotal	3.20E+02	Subtotal	6.35E-01

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

SUX a	50x and NOX should be indicated in 502, NO2 equivalent.										
sumption	Classification	Energy	Energy	Energy	Energy	Material	Material				
	Distribution	Electricity (kWh)	Heavy oil as fuel(kg)	Diesel oil as fuel(kg)	Furnace urban gas (m3)	urban water(kg)	Groundwater (kg)				
nsuo	Quantity	1.99E+02	3.70E+00	1.07E-01	1.20E-01	4.16E+03	3.62E+02				
Ö	Note										
Emission/ Discharge	Classification	To Water system									
Emissio Dischai	Distribution	Sewage (kg)									
Em Dis	Quantity	6.80E+02									
	Note										

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

		Means of transportation	Freight by	Diesel truck	Diesel truck			
ribution	tion		ship	:20ton	:2ton			
	<u>r</u>	Conditions	Load(kg·km)	Load(kg•km)	Load(kg•km)			
	Dist	Quantity	9.92E+05	1.99E+05	1.50E+03			
		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
Product	Distribution	Electricity (kWh)	Heavy oil as fuel(kg)	Diesel oil as fuel(kg)	Gasoline as fuel(kg)	Furnace urban gas (m3)	Groundwater (kg)	Ordinary steel (kg)	Stainless steel (kg)
_	Quantity	6.97E+03	6.51E-01	1.88E-02	9.35E-01	3.39E-01	1.95E+03	2.07E+01	5.61E+00
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Processing	Processing
Product	Distribution	Aluminium (kg)	Copper(kg)	Glass (kg)	Thermoplastic resin(kg)	Paper(kg)	Rubber(kg)	Press:Iron (kg)	Press: Nonferrous(kg)
Δ.	Quantity	1.87E+01	9.00E-03	3.00E-01	5.20E+01	2.65E+01	1.11E+01	2.02E+01	5.21E+00
	Note								
	Classification	Processing	Processing	Processing	Assembly	To Water system	Distribution		
Product	Distribution	Injection molding(kg)	Blow molding(kg)	Glass molding(kg)	Parts assembly (kg)	Sewage (kg)	Diesel truck: 10ton (kg•km)		
	Quantity	4.02E+01	5.65E+01	3.00E-01	5.65E+01	1.75E+02	1.48E+04		
	Note								
	Classification								
Product	Distribution								
	Quantity								
	Note								

4.2 Disposition/Recycle information on consumables and replacement parts

	position/recycle			ш					
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 Glass(kg)	Recycle: to plastics(kg)	Recycle: to Paper(kg)
Son	Quantity	3.69E+00	4.80E-02	1.05E+01	7.46E+00	3.60E-03	1.20E-01	2.06E+01	1.06E+01
)	Note								
	Classification	Treatment	Treatment	Treatment	Treatment	Deduction	Deduction	Deduction	Deduction
Consumables	Distribution	Industrial waste destruction by fire(kg)	Industrial waste inning(kg)	Waste destruction by fire(kg)	Waste inning(kg)	Iron(kg)	Aluminum(kg)	Copper(kg)	Glass(kg)
ပိ	Quantity	4.45E+00	2.08E-01	5.38E+01	2.71E+01	-1.05E+01	-7.46E+00	-3.60E-03	-1.20E-01
	Note								
	Classification	Deduction	Deduction	Distribution	Distribution				
Consumables	Distribution	Plastics(kg)	Paper(kg)	Diesel truck: 10ton (kg•km)	Diesel truck: 4ton (kg•km)				
S	Quantity	-2.06E+01	-1.06E+01	6.47E+03	7.83E+03				
	Note								

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

	Classification	Consumption	Consumption	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment
co.	Ciassilication	Consumption	Consumption	Heatment	Heatment	Treatment	Heatinent	Heatment	Heatment
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)	Recycle: to Assembled circuit board(kg)
රි	Quantity	1.06E+01	1.38E-01	1.22E+02	8.52E-01	3.12E+00	9.66E+00	1.68E+01	1.67E+00
	Note								
	Classification	Treatment	Treatment	Treatment	Treatment	Deduction	Deduction	Deduction	Deduction
Consumables	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)	Plastics(kg)
8	Quantity	3.70E+00	4.89E-01	3.84E+01	1.85E+02	-1.22E+02	-8.52E-01	-3.12E+00	-9.66E+00
	Note								
	Classification	Deduction	Deduction	Distribution	Distribution				
Consumables	Distribution	Paper(kg)	Recycle: to Assembled circuit board(kg)	Diesel truck: 10ton (kg•km)	Diesel truck: 4ton (kg•km)				
Ŝ	Quantity	-1.68E+01	-1.67E+00	1.86E+04	2.25E+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 9,375,000 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 maintenance 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.