

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.

Form 2 (F-02B-03)

Product Environmental Information Data Sheet (PEIDS)

Document control no. F-02B-03								Unit Fu	nction DB version	2.1	T L L L L L L L L L L L L L L L L L L L	ECO				
Product vendor KONICAMIN									Factor DB version		LEALS					
EcoLeaf registration no. AD-15-543							,	Characterization Factor DB version 2.1 製品環境情報 http://www.jemal.or.jp								
	DOI	D	-		ED and I I mint		Due durat true e	bizhub 227								
PCR name EP and IJ printer						er	Product type Product weight[kg]	56.5	Package[kg]	Weight total[kg]	66.8					
									Fackage[kg]	10.3	Weight total[kg]	00.8				
In/O	, Unit						Produ Raw material	Iction Product	Distribution	Use	Disposal	Recycle				
	uine					MJ	4.12E+03	7.17E+02	1.53E+02	3.28E+03	4.15E+01	-9.91E+02				
	Energy Co			onsu	Imption	Mcal	9.83E+02	1.71E+02	3.66E+01	7.82E+02	9.91E+00	-2.37E+02				
				Coa	Coal		3.79E+01	4.69E+00	3.58E-04	1.67E+01	2.06E-01	-1.30E+01				
			Energy	Cru	ide oil (as a fuel)	kg	3.56E+01	5.35E+00	3.35E+00	2.15E+01	4.51E-01	-6.84E+00				
			Linorgy		ural Gas	kg	6.05E+00	2.77E+00	5.17E-02	1.10E+01	1.07E-01	-1.14E+00				
				-	nium ore	mg	5.95E-04	3.17E-04	2.43E-08	1.01E-03	1.39E-05	-6.67E-05				
					Crude oil (as an ingredients)	kg	1.75E+01	0	0	5.13E+00	0	-4.33E+00				
					Iron ore	kg	3.49E+01	0	0	7.59E-01	0	-1.42E+01				
					Copper ore	kg	4.29E-01	0	0	9.05E-04	0	<u>-1.27E-01</u>				
	t J	m		_	Bauxite	kg	3.58E-01	0	0	4.48E-01	0	<u>-3.21E-01</u>				
	umptik nmen	Exhaustible	resources	-	Nickel ore Chromium ore	kg	3.27E-02	0	0	1.74E-02	0	-2.00E-02				
	Consu	thau	resor	-	Manganese ore	kg kg	5.58E-02 1.84E-01	0	0	2.38E-02 6.83E-03	0	-3.18E-02 -1.28E-02				
	the er		Material		Plumbous ore	кg kg	1.84E-01 1.76E-02	0	0	0.83E-03	0	-3.64E-02				
	Resource Consumption from the environment				Tin ore	kg	0	0	0	0	0	<u>-3.04E-03</u>				
	~ ~				Zinc ore	kg	1.73E-01	Ő	0 0	0	0	-3.58E-02				
					Gold ore	kg	0	0	0	0	0	0				
					Silver ore	kg	0	0	0	0	0	0				
					Silica sand	kg	2.31E+00	0	0	9.00E-03	0	-7.72E-01				
s					Rock salt	kg	1.17E+01	1.87E-04	0	2.44E-01	1.98E-02	-1.53E+00				
Inventory analyses				_	Limestone	kg	7.53E+00	0	0	1.66E-01	1.82E-01	<u>-2.56E+00</u>				
ry an					Natural soda ash Wood	kg	2.12E-01	0	0	0	0	<u>-7.73E-02</u>				
vento		Renewable resources			Water	kg kg	1.53E+01 1.31E+04	0 3.84E+03	0 2.71E-01	3.74E+00 1.24E+04	1.67E+02	-7.60E+00 -2.33E+03				
Ē					CO2	kg	2.26E+02	3.77E+01	1.09E+01	1.47E+04	1.92E+01	-5.68E+01				
					SOx	kg	1.23E-01	2.78E-02	6.28E-03	1.13E-01	1.04E-02	-3.17E-02				
					NOx	kg	2.52E-01	2.47E-02	4.57E-02	1.41E-01	2.68E-02	-6.11E-02				
					N2O	kg	1.80E-02	1.85E-03	1.91E-03	1.47E-02	4.08E-05	-4.10E-03				
		to	to Atmosphere		CH4	kg	1.59E-03	8.48E-04	6.48E-08	2.69E-03	3.73E-05	-1.73E-04				
					со	kg	3.02E-02	5.60E-03	1.08E-02	2.47E-02	6.14E-03	-9.18E-03				
					NMVOC	kg	3.10E-03	1.66E-03	1.27E-07	5.27E-03	7.30E-05	<u>-3.38E-04</u>				
	nent				CxHy	kg	9.31E-03	3.20E-04	1.46E-03	3.34E-03	1.90E-04	<u>-2.28E-03</u>				
	Emission/Discharge to the environment				dust BOD	kg	3.11E-02	1.20E-03 -	4.53E-03	8.69E-03 -	1.62E-03	<u>-8.54E-03</u> _				
	sion/ e env				COD	kg kg	_		-		-					
	Emis to th	to	Water system	1	N total	kg										
		to water system			P total	kg	_	_	-	-	-	_				
					SS	kg	-		-	-		-				
				Uns	pecified solid waste	kg	1.78E+00	7.89E-03	0	1.22E+00	2.44E+01	-5.31E-01				
					Slag	kg	1.08E+01	0	0	2.44E-01	0	-4.18E+00				
		to :	Soil system	o Soil system	o Soil system	Soil system	Soil system		Sludge	kg	5.66E-01	0	0	9.61E-01	0	-6.11E-01
				r	Low emission adioactive waste	kg	4.16E-04	2.22E-04	1.69E-08	7.04E-04	9.72E-06	-4.67E-05				
	nsumption	_			Energy resources rude oil equivalent)	kg	7.20E+01	1.43E+01	3.41E+00	5.37E+01	8.25E-01	-1.71E+01				
nent	by Resource Consumption		xhaustible esources		Aineral resources on ore equivalent)	kg	1.65E+02	0	0	1.87E+01	0	-5.71E+01				
sest	on				Global warming (CO2 equivalent)	kg	2.31E+02	3.82E+01	1.14E+01	1.51E+02	1.92E+01	-5.79E+01				
ass	mpti		to		Acidification	kg	2.99E-01	4.51E-02	3.83E-02	2.12E-01	2.92E-02	-7.45E-02				
Impact assesment	Consur	At	tmosphere		(SO2 equivalent)	ng	2.995-01	4.010-02	3.03E-02	2.126-01	2.920-02	-7. 4 JE 02				
-	Emision Consumption		to Water system													
	by Em		to Soil system													

[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.

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).

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

- 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 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 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). 290,400 sheets are printed in total during the use period of five years. 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.

Form3 (F-03-03) Document control no. Product vendor	(duct data s Input data and pa F-03-03 DNICAMINOLTA,	ى V							
EcoLeaf registration no.		AD-15-543					http://www.ja	real or Jp		
PCR name	EP and IJ printer	(PCR-ID:AD-04)	Product type		bizhu	ıb 227				
LCA/LCIA in units of:	1		Product weight[kg]	56.5	Package[kg]	10.3	Weight total[kg]	66.8		
1. Product information (per unit): parts etc. by material and by process/assembly method										
	Breakdown of primar	y materials			Math breakdown of parts, which need to apply Processing / Assembly Base Units (Parts B,					
Material name	Material name Weight (kg) Material name		Weight (kg)	Process name	Weight (kg)	Process name	Weight (kg)			
Ordinary steel	3.35E+01	Rubber		3.18E-03	Press molding:lron	3.24E+01	Parts assembly	2.97E-01		
Stainless steel	2.02E-01	Semiconduct	or circuit board	1.16E+00	Press molding:Nonfe rrous metal	4.38E-01				
Aluminium	2.49E-01				Injection molding	1.96E+01				
Other metals	1.89E-01				Blow molding	1.25E-01				
Glass	2.19E+00	9E+00								
Thermoplastic resin	1.98E+01	1.98E+01								
Wood	4.402.00									
Paper	5.10E+00									
Subtotal	6.57E+01	Sub	ototal	1.16E+00						
	Total			6 68E+01	Subtotal	5 26E+01	Subtotal	2 97E-01		

1.16E+00 6.68E+01 5.26E+01 Subtotal 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.

c	Classification	Energy	Energy	Material	Material				
mption	Distribution	Electricity	Furnace urban	Industrial	Groundwater				
Ling Ling	Distribution	(kWh)	gas (m ³)	water(kg)	(kg)				
Consul	Quantity	2.49E+01	5.38E-01	2.09E+02	7.53E+01				
0	Note								
	Classification	To Water							
Emission/ Discharge	Classification	system							
cha	Distribution	Sewage(kg)							
Dis	Quantity	3.23E+01							
	Note								
3. Distribu	Distribution stage information (per unit): means, distance, loading ratio, consumptions and emissions/discharges.								
	Means of transportation	Freight by ship	Diesel truck	Diesel truck					
tion	Wearia of transportation	Freight by ship	:20ton	:2ton					
Distribution	Conditions	Load(kg · km)	Load(kg•km)	Load(kg · km)					
Dist	Quantity	1.77E+05	2.27E+04	1.50E+03					
	Note								

Subtotal

2.97E-01

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

End Classification Consumption Consumption <t< th=""><th>4.1 Produ</th><th>uct and accessories subject to tr</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>	4.1 Produ	uct and accessories subject to tr								
Operation Track(sp) Track(sp) water(sp) (sp) (sp) (sp) (sp) (sp) Auminium (sp) Main 2.62E+02 3.79E-01 3.86E+00 7.55E+00 5.19E+02 6.98E-01 1.10E-01 4.23E-01 Main Distribution Consumption Consumption Processing		Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
Udativity Z.02E+102 3.78E+01 3.86E+00 7.55E+00 5.16E+02 6.98E+01 1.10E+01 4.23E+01 Noite Consumption Consumption Consumption Processing Proces	ę	Distribution								Aluminium (kg)
Udativity 2.02E+V2 3.78E+01 3.80E+00 7.55E+00 5.10E+02 6.98E+01 1.10E+01 4.23E+01 Noite Consumption Consumption Consumption Processing Procesi	p					water(kg)				
Understand Consumption Consumption Processing Procesing Proces	۵.	Quantity	2.62E+02	3.79E-01	3.86E+00	7.55E+00	5.16E+02	6.98E-01	1.10E-01	4.23E-01
Mode Distribution Thermoplastic resin(kg) Quantity Obtication (kg) resistion (kg) Pression (kg) Pression (kg) Pression (kg) Noterrough(g) Injection molding (kg) Blow molding assembly (kg) Upget Quantity 5.20E+00 1.45E+02 5.48E+02 3.68E+00		Note								
open control resin(kg) resin(kg) <thresin an="" an<="" td=""><td></td><td>Classification</td><td>Consumption</td><td>Consumption</td><td>Consumption</td><td>Processing</td><td>Processing</td><td>Processing</td><td>Processing</td><td>Assembly</td></thresin>		Classification	Consumption	Consumption	Consumption	Processing	Processing	Processing	Processing	Assembly
Usaminy D.dom'ny	roduct	Distribution	resin(kg)				Nonferrous(kg)	molding(kg)	(kg)	assembly(kg)
Image: system To Water system To Water system Image: system Imag	₫.	Quantity	5.20E+00	1.76E+00	1.45E-02	5.49E-02	3.68E-01	1.98E+00	3.86E+00	3.86E+00
orgen Classification system <th<< td=""><td></td><td>Note</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<<>		Note								
Outanity 3.14E+02 Image: Classification Distribution Treatment <	-	Classification								
Note Note <th< td=""><td>Produc</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	Produc									
Classification Distribution Treatment Treatment Treatment Treatment Treatment Treatment Treatment Recycle: to information (kg: km)			3.14E+02							
Image: statution of the statution		Note								
generation Preight by ship (kg + km) 20ton (kg + km) 10ton (kg + km) 10ton (kg + km) 10ton (kg + km) 10ton 10t		Classification	Distribution	Distribution	Distribution					
Ouanity 4.97E+02 1.15E+03 1.15E+03 Image: Construction of the second sec	Product	Distribution		20ton	10ton					
Note Note Image: Classification Consumption Consumption Treatment		Quantity	4.97E+02	1.59E+03	1.15E+03					
Image: second		Note								
Image: second	4.2 Dispo	sition/Recycle information on co	onsumables and	replacement pa	rts					
Big Distribution Electricity (kWh) Kerosene(kg) (kWh) Recycle: to iron(kg) Recycle: to Aluminum(kg) Recycle: to copper(kg) Recycle: to plastics(kg) Industrial waste plastics(kg) Plastics(kg) Plastics(kg) Paper(kg) Quantity 1.52E-03 1.29E+00 7.40E-01 -3.23E-01 -1.69E-01 -1.20E-03 -1.50E-01 -7.03E-01 Note Distribution Distribution Distribution Distribution Intervence Intervence Intervence Intervence 0 Distribution Distribution Distribution Distribution Intervence		Classification	Consumption	Consumption	Treatment	Treatment	Treatment	Treatment	Treatment	Treatment
Note Deduction Dise Note Note Note Note Note Note Note Note Note	nsumables	Distribution	Electricity	Kerosene(kg)	Recycle: to					destruction by
Classification Treatment Treatment Treatment Deduction	õ	Quantity	9.27E-02	1.27E-03	3.23E-01	1.69E-01	1.20E-03	1.50E-01	7.03E-01	5.80E-03
Industrial waste inning(kg) Decention Decention <thdecentio< td=""><td></td><td>Note</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></thdecentio<>		Note								
Note Other		Classification	Treatment	Treatment	Treatment	Deduction	Deduction	Deduction	Deduction	Deduction
Note Other	sumables	Distribution				lron(kg)	Aluminum(kg)	Copper(kg)	Plastics(kg)	Paper(kg)
Classification Distribution Distribution Distribution Distribution Distribution	Õ	Quantity	1.52E-03	1.29E+00	7.40E-01	-3.23E-01	-1.69E-01	-1.20E-03	-1.50E-01	-7.03E-01
Distribution Disastruck: Disastruck: 10ton 4ton (kg·km) Quantity 1.83E+02 1.97E+02		Note								
		Classification	Distribution	Distribution						
	nsumables	Distribution	10ton	4ton						
Note Contract of the second se	ů	Quantity	1.63E+02	1.97E+02						
		Note								

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

ş	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 Glass(kg)	Recycle: to plastics(kg)	Recycle: to Paper(kg)
Consul	Quantity	1.61E+00	2.21E-02	1.35E+01	9.98E-02	2.33E-01	8.74E-01	4.72E+00	3.96E+00
0	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)	lron(kg)	Aluminium (kg)	copper(kg)	Glass(kg)
Const	Quantity	2.83E-01	8.37E-02	1.29E+01	2.24E+01	-1.35E+01	-9.98E-02	-2.33E-01	-8.74E-01
	Note								
	Classification	Deduction	Deduction	Distribution	Distribution				
Consumables	Distribution	Plastics(kg)	Paper(kg)	Diesel truck: 10ton (kg•km)	Diesel truck: 4ton (kg•km)				
õ	Quantity	-4.72E+00	-3.96E+00	2.83E+03	3.42E+03				
	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 290,400 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. Treatment of copper and deduction of copper include copper of " assembled circuit board". Incineration of assembled circuit board is included "Incineration: Industrial waste".

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. Treatment of copper and deduction of copper include copper of " assembled circuit board". Incineration of assembled circuit board is included "Incineration: Industrial waste".