

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)

					/			Data			ECO					
Document control no. F-02B-03 Product vendor KONICAMINOLTA ,I								nction DB version	6	LEAD						
						,	Characterization	Factor DB version	2.1		製品環境情報					
Eco	oLeaf	f regis	stration	no. AD-	-14-3	27					ttp://www.jemal.or.jp					
	PCF	R nar	ne	EP and IJ print	ter	Product type			bizhub C3850	)						
					-	Product weight[kg]	45.0	Package[kg]	12.9	Weight total[kg]	57.9					
	_					• • •										
In/O	Life Cycle Stage Unit Raw m					Raw material	uction Product	Distribution	Use	Disposal	Recycle					
	ut ne	1113			MJ	4.53E+03	7.65E+02	2.15E+02	2.51E+04	4.34E+01	-5.18E+03					
	Energy Consumption			Mcal	1.08E+03	1.83E+02	5.13E+01	5.99E+03	1.04E+01	-1.24E+03						
				Coal	kg	3.05E+01	4.59E+00	5.02E-04	1.17E+02	2.30E-01	-3.28E+01					
				Crude oil (as a fuel)	kg	4.29E+01	5.55E+00	4.69E+00	2.02E+02	4.74E-01	-4.02E+01					
			Energy	Natural Gas	kg	8.42E+00	3.08E+00	7.25E-02	6.53E+01	1.19E-01	-7.53E+00					
				Uranium ore	mg	7.84E-04	3.10E-04	3.40E-08	4.23E-03	1.56E-05	-2.62E-04					
				Crude oil (as an ingredients)	kg	2.00E+01	0	0	1.21E+02	0	-4.05E+01					
				Iron ore	kg	2.02E+01	0	0	4.11E+01	0	-2.45E+01					
				Copper ore	kg	7.44E-01	0	0	4.20E-02	0	-2.34E-01					
	_			Bauxite	kg	1.22E+00	0	0	8.66E+00	0	-3.95E+00					
	nent	Exhaustible resources		Nickel ore	kg	7.72E-02	0	0	1.03E-01	0	-7.19E-02					
	ironn	haus		Chromium ore	kg	1.11E-01	0	0	1.53E-01	0	-1.06E-01					
	Resource Consumption from the environment	щщ		Manganese ore	kg	1.09E-01	0	0	2.34E-01	0	-2.74E-02					
			Material	Plumbous ore	kg	3.13E-02	0	0	0	0	-7.72E-03					
				Tin ore	kg	0	0	0	0	0	0					
				Zinc ore	kg	3.08E-01	0	0	0	0	-7.59E-02					
					Gold ore Silver ore	kg	0	0	0	0	0	0				
				Silica sand	kg ka	1.57E+00	0	0	5.61E-01	0	-5.76E-01					
				Rock salt	kg kg	1.57E+00 1.42E+01	3.35E-04	0	5.58E+00	0 1.44E-02	-7.58E+00					
ses				Limestone	kg	4.47E+00	0	0	9.34E+00	2.92E-01	-4.17E+00					
analy				Natural soda ash	kg	1.42E-01	0	0	7.53E-03	0	-4.61E-02					
tory a		Renew	vable	Wood	kg	1.76E+01	0	0	1.06E+02	0	-4.96E+01					
Inventory analyses		resour		Water	kg	1.92E+04	3.65E+03	3.80E-01	7.32E+04	1.92E+02	-1.39E+04					
				CO2	kg	2.39E+02	3.88E+01	1.53E+01	1.28E+03	2.92E+01	-2.39E+02					
				SOx	kg	1.72E-01	2.75E-02	8.57E-03	9.83E-01	1.55E-02	-2.35E-01					
				NOx	kg	3.10E-01	2.76E-02	6.00E-02	2.27E+00	3.66E-02	-4.08E-01					
		to Atmo		N2O	kg	2.17E-02	3.27E-03	2.74E-03	1.63E-01	4.47E-05	-2.88E-02					
			osphere	CH4	kg	2.08E-03	8.29E-04	9.10E-08	1.12E-02	4.17E-05	-6.29E-04					
				CO	kg	3.53E-02	5.83E-03	1.32E-02	4.08E-01	7.48E-03	-4.90E-02					
	0			NMVOC	kg	4.06E-03	1.62E-03	1.78E-07	2.18E-02	8.16E-05	-1.23E-03					
	Emission/Discharge to the environment			CxHy dust	kg	1.04E-02	6.38E-04	1.99E-03	6.24E-02	1.88E-04	-1.32E-02					
	/iron			BOD	kg kg	3.42E-02	1.18E-03	6.04E-03	1.90E-01	2.11E-03	-4.67E-02					
	sion/	to Wate	Water system	COD	кg kg	-	-	-	-	-	-					
	Emis to th			N total	кg kg	_										
				P total	kg	-	-	-	-	-	-					
				SS	kg	-	-	-	-	-	-					
				Unspecified solid waste	kg	2.01E+00	1.68E-05	0	4.92E+01	1.75E+01	-2.86E+00					
				Slag	kg	6.56E+00	0	0	1.26E+01	0	-7.22E+00					
		to Soil	Soil system	Soil system	Soil system	Soil system	Soil system	Soil system	Sludge	kg	2.27E+00	0	0	1.86E+01	0	-8.33E+00
				Low emission radioactive waste	kg	5.49E-04	2.17E-04	2.38E-08	2.95E-03	1.09E-05	-1.83E-04					
	Consumption	E et		Energy resources (crude oil equivalent)	kg	7.91E+01	1.47E+01	4.78E+00	3.91E+02	8.93E-01	-7.24E+01					
nent	by Resource Co		austible ources	Mineral resources (Iron ore equivalent)	kg	2.54E+02	0	0	2.26E+02	0	-1.59E+02					
sesi	on			Global warming	kg	2.45E+02	3.97E+01	1.60E+01	1.33E+03	2.92E+01	-2.47E+02					
ass	npti		to	(CO2 equivalent) Acidification		3.89E-01	4.69E-02	5.05E-02	2.57E+00	4.11E-02	-5.20E-01					
Impact assesment	Consur	Atmo	osphere	(SO2 equivalent)	kg	3.092-01	4.096-02	0.000-02	2.372700	4.116-02	-0.20E-01					
	Emision Consumption	sy	Water stem													
	by Em		Soil stem													

[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 transportation of produced product. Transportation of ordinations and maintenance goods (e.g. replacement) 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).
- 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 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.

Form3 (F-03-03)

## Product data sheet

(Input data and parameters for LCA) F-03-03 KONICAMINOLTA,INC. AD-14-327 Document control no. Product vendor EcoLeaf registration no.



LCA/LCIA in units of: 1 Product weight[kg] 45.0 Package[kg] 12.9 Weight total[kg] 57.9	PCR name	EP and IJ printer (PCR-ID:AD-04)	Product type	bizhub C3850				
	LCA/LCIA in units of:	1	Product weight[kg]	45.0	Package[kg]	12.9	Weight total[kg]	57.9

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

	Breakdown of prima	ry materials		Math breakdown of pa	irts, which need to appl	y 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	1.92E+01	Rubber	2.41E-01	Press molding:Iron	1.73E+01	Parts assembly	9.53E-01
Stainless steel	4.86E-01	Semiconductor circuit board	1.77E+00	Press molding:Nonferro us metal	1.46E+00		
Aluminium	1.00E+00			Injection molding	2.14E+01		
Other metals	4.64E-01			Blow molding	2.76E-02		
Glass	1.16E+00						
Thermoplastic resin	2.23E+01						
Wood	5.68E+00						
Paper	5.59E+00						
Subtotal	5.59E+01	Subtotal	2.02E+00				
	Total		5.79E+01	Subtotal	4.02E+01	Subtotal	9.53E-01

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.

	Classification	En en en en	En en en en	Material	Material		
sumption	Glassification	Energy	Energy	waterial	Wateriai		
	Distribution		Furnace urban	Industrial	Groundwater		
	Distribution	Electricity (kWh)	gas (m <sup>3</sup> )	water(kg)	(kg)		
Cont	Quantity	3.81E+01	9.95E-01	4.10E-01	1.77E+02		
0	Note						
Emission/ Discharge	Classification	To Water system					
cha	Distribution	Sewage (kg)					
Dis El	Quantity	5.77E+01					
	Note						
3. Distribu	ution stage information (per unit): mear	ns, distance, loading	g ratio, consumptio	ons and emissions/o	lischarges.		
	Means of transportation	Freight by ship	Diesel truck	Diesel truck			
tion	means of transportation	Freight by ship	:20ton	:2ton			
Distribution	Conditions	Load(kg · km)	Load(kg • km)	Load(kg•km)			
Dis	Quantity	2.55E+05	2.83E+04	1.50E+03			
	Note						

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

_	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
Product Product Product	Distribution	Electricity (kWh)	Gasoline as fuel(kg)	Furnace urban gas (m <sup>3</sup> )	Industrial water(kg)	Groundwater (kg)	Ordinary steel (kg)	Stainless steel (kg)	Aluminium (kg
	Quantity	7.55E+02	8.28E+00	2.61E+01	8.13E-01	4.13E+03	3.94E+01	6.45E-01	8.18E+00
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption	Processing	Processing	Processing	Processing
oduct	Distribution	Thermoplastic resin(kg)	Wood(kg)	Paper(kg)	Rubber (kg)	Press:lron(kg)	Press: Nonferrous(kg)	Injection molding (kg)	Blow molding(k
۲.	Quantity	1.23E+02	8.57E+00	4.60E+01	2.04E+00	5.52E+01	2.81E+00	3.40E+01	5.22E+01
	Note								
Product	Classification	Assembly	To Water system						
	Distribution	Parts assembly (kg)	Sewage (kg)						
	Quantity	5.22E+01	2.37E+03						
	Note								
	Classification	Distribution	Distribution	Distribution					
Product	Distribution	Freight by ship (kg· km)	Diesel truck: 20ton (kg•km)	Diesel truck: 10ton (kg•km)					
			(	(kg kin)					
đ	Quantity	8.62E+05	4.88E+05	2.45E+04					
ā	Quantity Note	8.62E+05							
			4.88E+05						
	Note		4.88E+05		Treatment	Treatment	Treatment	Treatment	Treatment
2 Dispo	Note Disition/Recycle information on consum	ables and replacem	4.88E+05 eent parts	2.45E+04	Treatment Recycle: to Aluminum(kg)	Treatment Recycle: to copper(kg)	Treatment Recycle: to plastics(kg)	Treatment Recycle: to Paper(kg)	Industrial waste
	Note Sition/Recycle information on consum Classification	nables and replacem	4.88E+05 eent parts Consumption	2.45E+04 Treatment Recycle: to	Recycle: to	Recycle: to	Recycle: to	Recycle: to	Industrial waste
2 Dispo	Note ssition/Recycle information on consum Classification Distribution	ables and replacem Consumption Electricity (kWh)	4.88E+05 eent parts Consumption Kerosene(kg)	2.45E+04 Treatment 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
2 Dispo	Note Sition/Recycle information on consum Classification Distribution Quantity	ables and replacem Consumption Electricity (kWh)	4.88E+05 eent parts Consumption Kerosene(kg)	2.45E+04 Treatment 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
Consumables	Note Sition/Recycle information on consum Classification Distribution Quantity Note	ables and replacem Consumption Electricity (kWh) 3.39E+00	4.88E+05 eent parts Consumption Kerosene(kg) 5.18E-02	2.45E+04 Treatment Recycle: to iron(kg) 1.60E+01	Recycle: to Aluminum(kg) 3.27E+00	Recycle: to copper(kg) 4.13E-02	Recycle: to plastics(kg) 3.43E+01	Recycle: to Paper(kg) 2.18E+01	Industrial waste destruction by fire(kg 8.89E-01
2 Dispo	Note Sition/Recycle information on consum Classification Distribution Quantity Note Classification	ables and replacem Consumption Electricity (kWh) 3.39E+00 Treatment Industrial waste	4.88E+05 ent parts Consumption Kerosene(kg) 5.18E-02 Treatment Waste destruction by	2.45E+04 Treatment Recycle: to iron(kg) 1.60E+01 Treatment	Recycle: to Aluminum(kg) <b>3.27E+00</b> Deduction	Recycle: to copper(kg) 4.13E-02 Deduction	Recycle: to plastics(kg) 3.43E+01 Deduction	Recycle: to Paper(kg) 2.18E+01 Deduction	Industrial waste destruction by fire(kg 8.89E-01 Deduction
Consumables	Note Sition/Recycle information on consum Classification Distribution Ouantity Note Classification Distribution Distribution	ables and replacem Consumption Electricity (kWh) 3.39E+00 Treatment Industrial waste inning(kg)	4.88E+05 ent parts Consumption Kerosene(kg) 5.18E-02 Treatment Waste destruction by fire(kg)	2.45E+04 Treatment Recycle: to iron(kg) 1.60E+01 Treatment Waste inning(kg)	Recycle: to Aluminum(kg) 3.27E+00 Deduction Iron(kg)	Recycle: to copper(kg) 4.13E-02 Deduction Aluminum(kg)	Recycle: to plastics(kg) 3.43E+01 Deduction Copper(kg)	Recycle: to Paper(kg) 2.18E+01 Deduction Plastics(kg)	Industrial waste destruction by fire(kg 8.89E-01 Deduction Paper(kg)
Consumables	Note sition/Recycle information on consum Classification Distribution Quantity Note Classification Distribution Distribution Quantity Quantity Quantity	ables and replacem Consumption Electricity (kWh) 3.39E+00 Treatment Industrial waste inning(kg)	4.88E+05 ent parts Consumption Kerosene(kg) 5.18E-02 Treatment Waste destruction by fire(kg)	2.45E+04 Treatment Recycle: to iron(kg) 1.60E+01 Treatment Waste inning(kg)	Recycle: to Aluminum(kg) 3.27E+00 Deduction Iron(kg)	Recycle: to copper(kg) 4.13E-02 Deduction Aluminum(kg)	Recycle: to plastics(kg) 3.43E+01 Deduction Copper(kg)	Recycle: to Paper(kg) 2.18E+01 Deduction Plastics(kg)	Industrial waste destruction by fire(k 8.89E-01 Deduction Paper(kg)
Consumables Consumables	Note Sition/Recycle information on consum Classification Distribution Quantity Note Classification Distribution Distribution Quantity Note Note	ables and replacem Consumption Electricity (kWh) 3.39E+00 Treatment Industrial waste inning(kg) 3.53E-01	4.88E+05 ent parts Consumption Kerosene(kg) 5.18E-02 Treatment Waste destruction by fire(kg) 8.59E+01	2.45E+04 Treatment Recycle: to iron(kg) 1.60E+01 Treatment Waste inning(kg)	Recycle: to Aluminum(kg) 3.27E+00 Deduction Iron(kg)	Recycle: to copper(kg) 4.13E-02 Deduction Aluminum(kg)	Recycle: to plastics(kg) 3.43E+01 Deduction Copper(kg)	Recycle: to Paper(kg) 2.18E+01 Deduction Plastics(kg)	Industrial waste destruction by fire(k 8.89E-01 Deduction Paper(kg)
Consumables	Note Sition/Recycle information on consum Classification Distribution Quantity Note Classification Distribution Quantity Note Classification Classification Classification	ables and replacem Consumption Electricity (kWh) 3.39E+00 Treatment Industrial waste inning(kg) 3.53E-01 Distribution Diesel truck: 10ton	4.88E+05 ent parts Consumption Kerosene(kg) 5.18E-02 Treatment Waste destruction by fire(kg) 8.59E+01 Distribution Distribution	2.45E+04 Treatment Recycle: to iron(kg) 1.60E+01 Treatment Waste inning(kg)	Recycle: to Aluminum(kg) 3.27E+00 Deduction Iron(kg)	Recycle: to copper(kg) 4.13E-02 Deduction Aluminum(kg)	Recycle: to plastics(kg) 3.43E+01 Deduction Copper(kg)	Recycle: to Paper(kg) 2.18E+01 Deduction Plastics(kg)	Industrial waste destruction by fire(k 8.89E-01 Deduction Paper(kg)

## 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)
Const	Quantity	1.02E+00	1.56E-02	7.85E+00	4.00E-01	4.27E-01	4.66E-01	8.83E+00	4.76E+00
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)	lron(kg)	Aluminium (kg)	copper(kg)
ŝ	Quantity	2.41E-01	5.29E-01	1.46E-01	2.03E+01	1.42E+01	-7.85E+00	-4.00E-01	-4.27E-01
	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)		
Cor	Quantity	-4.66E-01	-8.83E+00	-4.76E+00	-2.41E-01	2.78E+03	3.36E+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 866,400 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 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.