

Product Environmental Aspects Declaration

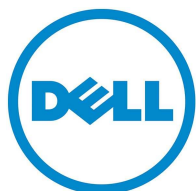


EP and IJ printer (PCR-ID:AD-04)

No. AD-14-E534

Date of publication

12/12/2014



<http://www.dell.com>

Please direct any inquiries
or comments to
Regulatory_Compliance@Dell.com



Total of 437,400 sheets on the
assumption of five years usage.
Environmental impact by copypaper
is not included.

Dell™ Colour Printer - C2660dn

Marking technologies :

Electrophotographic Printer (EP)

Printing speed :

27 prints-per-minute(A4, B/W),

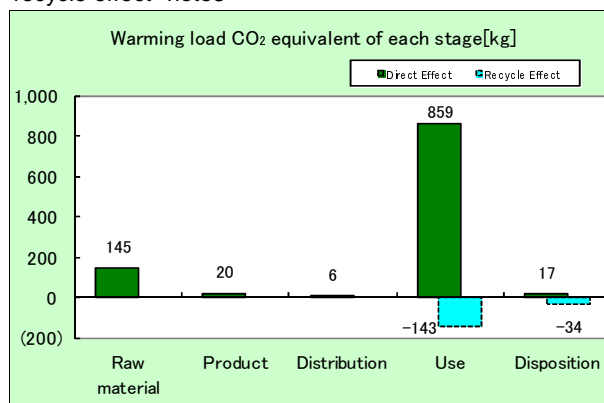
27 prints-per-minute(A4, color)

Maximum copy paper : A4

Duplex (standard)

Consumption and discharge in a life cycle	All the stage sum totals
Global Warming (CO ₂ equivalent)	1,048 kg (871.4 kg)
Acidification (SO ₂ equivalent)	1.89 kg (1.485 kg)
Energy resources (crude oil equivalent)	20,818 MJ (16,818 MJ)

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



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 PSC: Product Specification Criteria.
Visit EcoLeaf website under JEMAI homepage at http://www.jemai.or.jp/ecoleaf_e/ 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.

[Supplemental environmental information]

Certified Environmental Standards

- RAL-UZ 171 (Blue Angel)
- International Energy Star Program

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

Independent verification of the declaration and data, according to ISO14025:2006 internal external

Third party verifier: Keiichi Aramaki

Programme operator: Japan Environmental Management Association for Industry, ecoleaf@jemai.or.jp

* In the case of a 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)



Document control no.	F-02Bs-02
Product vendor	Fuji Xerox Co.,Ltd.
EcoLeaf registration no.	AD-14-E534

Unit Function DB version	v2.1
Characterization Factor DB version	v2.1

PCR name	EP and IJ printer		Product type	Dell Colour Printer - C2660dn			
PCR code	AD-04	Product weight (kg)	25.6	Package (kg)	4.8	Weight total (kg)	30.4

In/Out items	Life Cycle Stage	Unit	Production		Distribution	Use	Disposition	Recycle Effect		
			Raw material	Product						
Energy Consumption			MJ	2.74E+03	4.02E+02	9.57E+01	1.75E+04	9.53E+01	-4.00E+03	
			Mcal	6.54E+02	9.59E+01	2.28E+01	4.18E+03	2.28E+01	-9.55E+02	
Inventory analyses	Impact by Resource Consumption	Exhaustible resources	Energy resources	Coal	1.80E+01	2.61E+00	3.88E-02	8.22E+01	5.75E-01	-1.66E+01
				Crude oil (for fuel)	2.65E+01	3.00E+00	1.78E+00	1.52E+02	1.09E+00	-4.09E+01
				LNG	5.53E+00	1.51E+00	4.60E-02	4.36E+01	2.82E-01	-3.78E+00
				Uranium content of an ore	4.43E-04	1.77E-04	2.62E-06	3.79E-03	3.28E-05	-1.43E-04
				Crude oil (for material)	1.16E+01	0	2.41E-01	5.66E+01	0	-3.02E+01
			Mineral resources	Iron content of an ore	9.13E+00	0	0	6.74E+00	0	-8.72E+00
				Cu content of an ore	5.27E-01	0	0	1.34E-01	0	-2.55E-01
				Al content of an ore	1.08E+00	0	0	6.57E+00	0	-3.03E+00
				Ni content of an ore	3.48E-01	0	0	1.08E+00	0	-1.77E-04
				C content of an ore	4.74E-01	0	0	1.46E+00	0	-3.24E-03
		Mn content of an ore		9.97E-02	0	0	2.30E-01	1.81E-02	-4.62E-02	
		Pb content of an ore		2.94E-02	0	0	1.09E-02	0	-2.07E-02	
		Sn content of an ore		0	0	0	0	0	0	
		Zn content of an ore		2.89E-01	0	0	1.07E-01	0	-2.04E-01	
		Au content of an ore		0	0	0	0	0	0	
		Ag content of an ore		0	0	0	0	0	0	
		Silica Sand		6.45E-01	0	0	1.82E-01	2.17E-02	-1.75E-01	
		Halite		5.01E+00	0	0	2.12E+01	7.49E-03	-3.00E-01	
		Limestone		2.44E+00	0	0	9.49E+00	2.53E-01	-1.72E+00	
		Natural soda ash		5.09E-02	0	0	5.87E-03	0	0	
Wood	7.99E+00	0	6.80E-01	5.76E+01	0	-2.62E+01				
Water	1.23E+04	2.27E+03	9.38E+01	6.55E+04	4.72E+02	-9.16E+03				
Impact by Emission/Discharge to the environment	to Atmosphere	CO2	1.42E+02	2.03E+01	5.90E+00	8.37E+02	1.65E+01	-1.70E+02		
		Sox	1.26E-01	1.55E-02	3.09E-03	7.66E-01	1.12E-02	-1.78E-01		
		Nox	1.98E-01	1.23E-02	2.13E-02	1.13E+00	2.33E-02	-3.24E-01		
		N2O	1.40E-02	2.34E-04	9.27E-04	7.95E-02	3.57E-04	-2.36E-02		
		CH4	1.16E-03	4.72E-04	7.02E-06	9.99E-03	8.77E-05	-3.28E-04		
		CO	2.52E-02	3.00E-03	4.43E-03	1.73E-01	4.53E-03	-3.52E-02		
		NMVOG	2.28E-03	9.25E-04	1.37E-05	1.96E-02	1.72E-04	-6.42E-04		
		CxHy	6.38E-03	5.04E-05	6.64E-04	2.95E-02	2.18E-04	-1.10E-02		
		Dust	2.18E-02	6.64E-04	2.01E-03	9.85E-02	1.38E-03	-3.47E-02		
		BOD	-	-	-	-	-	-		
		COD	-	-	-	-	-	-		
		N total	-	-	-	-	-	-		
		P total	-	-	-	-	-	-		
		SS	-	-	-	-	-	-		
		Impact by Emission/Discharge to the environment	to Soil system	Unspecified Solid Waste	1.92E+00	9.32E-03	2.36E-02	3.09E+01	9.58E+00	-4.66E+00
Slag	3.67E+00			0	0	3.20E+00	3.42E-01	-3.30E+00		
Sludge	2.16E+00			0	0	1.41E+01	0	-6.50E+00		
Low level radio-active waste	3.10E-04			1.23E-04	1.83E-06	2.64E-03	2.30E-05	-1.00E-04		
Impact assessment	by Res	Energy resources (crude oil equivalent)	4.83E+01	7.94E+00	1.88E+00	2.89E+02	2.06E+00	-5.73E+01		
		Mineral resources (Iron ore equivalent)	4.21E+02	0	1.32E-01	9.41E+02	2.75E-01	-1.09E+02		
		Global Warming (CO2 equivalent)	1.45E+02	2.04E+01	6.15E+00	8.59E+02	1.66E+01	-1.76E+02		
		Acidification (SO2 equivalent)	2.64E-01	2.41E-02	1.80E-02	1.56E+00	2.75E-02	-4.05E-01		
		Ozone Depletion (CFC-11 equivalent)	0	0	0	0	0	0		
Photochemical Oxidant	1.24E-02	6.83E-04	1.09E-03	6.03E-02	7.27E-04	-1.88E-02				
Eutrophication (Phosphate equivalent)	0	0	0	0	0	0				

[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

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.

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.

Consumables	Classification	Deduction	Deduction	Deduction	Deduction	Consumption	Consumption	Consumption	Consumption
	Distribution	Cold-Rolled steel plate (kg)	Aluminum plate (kg)	Copper plate (kg)	ABS (kg)	Recycle: to cold-rolled steel (kg)	Sorting: Nonferrous metal (by eddy current with wind force) (kg)	Recycle: to Aluminum plate (kg)	Recycle: to copper plate (kg)
	Quantity	4.47E+00	2.49E+00	1.81E-01	2.73E+01	4.47E+00	3.02E+01	2.49E+00	1.81E-01
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption				
	Distribution	Sorting: Plastics (by relative density difference in water) (kg)	Recycle: to Thermoplastic pellet (kg)	Incineration: Industrial waste (kg)	Landfill: Industrial waste (kg)				
	Quantity	2.75E+01	2.73E+01	2.05E-01	4.70E-02				
Note									

Note

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

Scenario	Classification	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Deduction	Consumption
	Distribution	Diesel truck: 4 ton (kg·km)	Shredding (kg)	Sorting: Iron (by magnetic force) (kg)	Incineration: Biomass (paper) (kg)	Incineration to landfill (as ash) (kg)	Landfill: General waste (kg)	Corrugated cardboard (kg)	Recycle: to corrugated cardboard (kg)
	Quantity	2.94E+03	2.89E+01	2.89E+01	2.25E+00	8.03E+00	7.98E+00	1.50E+00	1.50E+00
	Note								
	Classification	Deduction	Deduction	Deduction	Deduction	Consumption	Consumption	Consumption	Consumption
	Distribution	Cold-Rolled steel plate (kg)	Aluminum plate (kg)	Copper plate (kg)	ABS (kg)	Recycle: to cold-rolled steel (kg)	Sorting: Nonferrous metal (by eddy current with wind force) (kg)	Recycle: to Aluminum plate (kg)	Recycle: to copper plate (kg)
	Quantity	3.94E+00	3.81E-01	6.65E-01	5.24E+00	3.94E+00	6.73E+00	3.81E-01	6.65E-01
	Note								
	Classification	Consumption	Consumption	Consumption	Consumption				
	Distribution	Sorting: Plastics (by relative density difference in water) (kg)	Recycle: to Thermoplastic pellet (kg)	Incineration: Industrial waste (kg)	Landfill: Industrial waste (kg)				
Quantity	5.68E+00	5.24E+00	1.12E-01	3.29E-01					
Note									

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 common parts.

B. Production site information:

The energy consumption & material use during the main body assembly 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 437,400 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 maintenance 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.