Product Environmental Aspects Declaration

Data Projector (PCR-ID:AG-04)

No.AG-08-051
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EPSON
EXCEED YOUR VISION

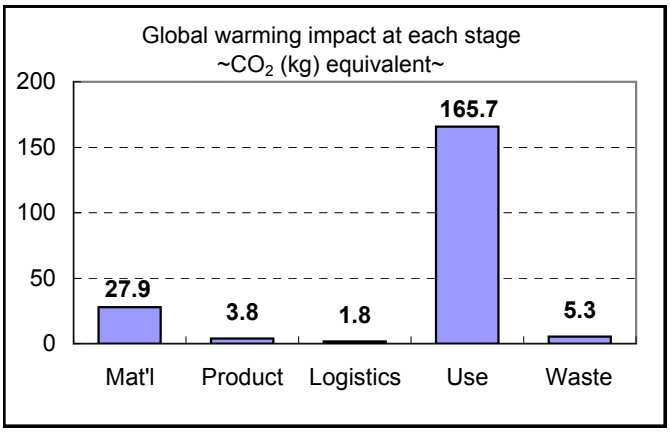
EB-1725

1.Projection System
:RGB Liquid Crystal Shutter Projection System
2.Brightness:3,000 ANSI Lumens
3.Pixel number: 786,432 dots (1,024 x 768) x 3
Native Resolution: XGA (1,024 x 768)

SEIKO EPSON CORPORATION
http://www.epson.jp

Inquires:
Global Environmental Policy Dept.
TEL: +81-266-52-3131
FAX: +81-266-58-9584
http://www.epson.jp/misc/form.html

	Total, all stages
Global warming impact (CO_2 equivalent)	204.6 kg
Acidification impact (SO_2 equivalent)	0.27 kg
Energy consumption	4,331 MJ



Condition during the usage
・Operating/waiting 3.5hr/day
・Days of utilization in an year 100day/yr
・Usage periods 5years

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 Specification Criteria.
   Visit EcoLeaf website under JEMAI homepage at http://www.jemai.or.jp/ecoleaf_e/ for details.
3. 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]
●This product is assembled at an ISO14001 certified factory.
●No halogen resin is used for the housing.

PCR review was conducted by : the chair Hisashi Ishitani, KEIO University at PCR Deliberation Committee in January 1, 2008.
Independent verification of the declaration and data, according to ISO14025:2006
☐internal ☑external third party verifier: name of the third party verifier* was Shozo Nakamuta.

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-A

Product Environmental Information Data Sheet (PEIDS)

Document control no.	F-02A-02
Product vendor	Seiko Epson Corporation
EcoLeaf registration no.	AG-08-051

Unit Function DB ver.	2.1
Characterization Factor DB ver.	2.1

PCR name	Data Projector			Product type	EB-1725		
PCR	AG-04	Product weight (kg)	1.83	Package (kg)	3.06	Weight total (kg)	4.88

In/Out items \ Life Cycle Stage					Unit	Production		Distribution	Use	Disposition	Total
						Raw material	Product				
Energy Consumption					MJ	4.93E+02	7.45E+01	2.30E+01	3.74E+03	5.12E+00	4.33E+03
					Mcal	1.18E+02	1.78E+01	5.49E+00	8.92E+02	1.22E+00	1.03E+03
Inventory analyses	Resource Consumption from the environment	Exhaustible resources	Energy	Coal	kg	2.75E+00	4.23E-01	1.29E-02	2.13E+01	3.58E-02	2.45E+01
				Crude oil (for fuel)	kg	5.65E+00	6.10E-01	4.53E-01	2.40E+01	4.56E-02	3.08E+01
				LNG	kg	9.38E-01	2.31E-01	1.32E-02	1.06E+01	1.81E-02	1.18E+01
				Uranium content of an ore	kg	1.02E-04	2.87E-05	8.74E-07	1.44E-03	2.42E-06	1.57E-03
			Material	Crude oil (for material)	kg	1.40E+00	0	2.57E-02	0	0	1.43E+00
				Iron content of an ore	kg	3.34E-01	0	0	0	0	3.34E-01
				Cu content of an ore	kg	1.09E-01	0	0	0	0	1.09E-01
				Al content of an ore	kg	1.21E-01	0	0	0	0	1.21E-01
				Ni content of an ore	kg	1.12E-02	0	0	0	0	1.12E-02
				Cr content of an ore	kg	1.53E-02	0	0	0	0	1.53E-02
				Mn content of an ore	kg	1.91E-02	0	0	0	0	1.91E-02
				Pb content of an ore	kg	1.20E-02	0	0	0	0	1.20E-02
				Sn content of an ore	kg	0	0	0	0	0	0
				Zn content of an ore	kg	1.20E-01	0	0	0	0	1.20E-01
				Au content of an ore	kg	0	0	0	0	0	0
				Ag content of an ore	kg	0	0	0	0	0	0
				Silica Sand	kg	8.58E-01	0	0	0	0	8.58E-01
				Halite	kg	1.15E+00	1.91E-04	2.12E-05	0	1.25E-03	1.15E+00
				Limestone	kg	3.67E-01	0	2.17E-03	0	5.00E-02	4.19E-01
				Natural soda ash	kg	2.96E-02	0	0	0	0	2.96E-02
		Renewable resources		Wood	kg	4.03E+00	0	3.09E-01	0	0	4.34E+00
				Water	kg	2.81E+03	3.55E+02	2.88E+01	1.61E+04	3.03E+01	1.93E+04
	Emission/Discharge to the environment	to Atmosphere		CO_2	kg	2.72E+01	3.76E+00	1.73E+00	1.65E+02	5.33E+00	2.03E+02
				SOx	kg	2.62E-02	2.67E-03	1.08E-03	1.26E-01	2.75E-03	1.59E-01
				NOx	kg	4.00E-02	2.52E-03	8.90E-03	9.99E-02	5.15E-03	1.56E-01
				N_2O	kg	2.53E-03	1.83E-04	1.80E-04	1.80E-03	6.78E-06	4.71E-03
				CH_4	kg	2.70E-04	7.66E-05	2.35E-06	3.85E-03	6.47E-06	4.20E-03
				CO	kg	5.06E-03	5.77E-04	2.65E-03	2.44E-02	7.51E-04	3.35E-02
				NMVOC	kg	5.28E-04	1.50E-04	4.58E-06	7.53E-03	1.27E-05	8.23E-03
				CxHy	kg	1.10E-03	7.30E-05	2.15E-04	3.93E-04	2.97E-06	1.79E-03
				Dust	kg	3.99E-03	1.11E-04	7.43E-04	5.39E-03	2.73E-04	1.05E-02
		to Water system		BOD	kg	-	-	-	-	-	
				COD	kg	-	-	-	-	-	
				N total	kg	-	-	-	-	-	
				P total	kg	-	-	-	-	-	
				SS	kg	-	-	-	-	-	
		to Soil system		Unspecified Solid Waste	kg	3.39E-01	5.41E-04	3.09E-02	0	1.56E+00	1.93E+00
				Slag	kg	7.51E-01	0	0	0	0	7.51E-01
				Sludge	kg	2.42E-01	0	0	0	0	2.42E-01
				Low level radio-active waste	kg	7.19E-05	2.00E-05	6.11E-07	1.00E-03	1.69E-06	1.10E-03
Impact assessment	by Resource Consumption	Exhaustible resources		Energy resources (crude oil equivalent)	kg	9.38E+00	1.39E+00	4.84E-01	6.22E+01	1.10E-01	7.36E+01
				Mineral resources (Iron ore equivalent)	kg	5.05E+01	0	1.41E-02	0	0	5.05E+01
	by Emission/ Discharge to the environment	to Atmosphere		Global Warming (CO_2 equivalent)	kg	2.79E+01	3.81E+00	1.78E+00	1.66E+02	5.33E+00	2.05E+02
				Acidification (SO_2 equivalent)	kg	5.42E-02	4.43E-03	7.31E-03	1.96E-01	6.36E-03	2.68E-01

Notes:

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: consiste 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).

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 rsources 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 Atmostphere, 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".
D. Row total of the data is automatically calculated, excluding a row includes "-" item. Row total of such is presented as a blank (no data).
Note: BGD for material production are for production from mineral ore. Those data do not include reclaiming processes like recovery from scrap.

Explanation:

1."Production" stage

According to the PCR, glass coating processing is calculated by using the basic unit of the parts assembly.

Form 3

Product data sheet

(Input data and parameters for LCA)

Document control no.	F-03-02
Product vendor	Seiko Epson Corporation
EcoLEaf registration no.	AG-08-051

PCR name	Data Projector (PCR-ID:AG-04)			Product type	EB-1725		
LCA/LCIA in units of:	1	Product weight (kg)	1.83	Package (kg)	3.06	Weight total (kg)	4.88

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

	Breakdown of primary materials				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)
Product	Steel	1.90E-01	Paper	1.86E+00	Press molding:Iron	2.61E-01	Parts □assembly	1.68E+00
	Stainless steel	7.10E-02	Semiconductor substrate	3.00E-01	Press molding: Nonferrous meta	2.82E-01		
	Aluminum	1.07E-01	Battery	4.66E-02	Injection molding	1.77E+00		
	Other metals	1.75E-01	Medium-sized motor	9.18E-02	Glass molding	2.67E-01		
	Thermoplastic resin	1.19E+00			Glass coarting	2.67E-01		
	Thermosetting resin	5.73E-01						
	Rubber	7.15E-03						
	Glass	2.67E-01						
	Subtotal	2.58E+00	Subtotal	2.30E+00				
	Total			4.88E+00	Subtotal	2.85E+00	Subtotal	1.68E+00

Notes: The mass of the material which can be classified in every material and have no Basic Units is proportionally distributed by the mass of each material group.

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

SO_x and NO_x should be indicated in SO_2, NO_2 equivalent.

Consumption	Classification	Energy	Energy	Energy	Material					
	Distribution	Electricity (kwh)	Diesel oil as fuel (kg)	LNG(kg)	Clean water (kg)					
	Quantity	4.64E+00	1.30E-01	1.66E-02	3.29E+01					
	Note									
Emission/ Discharge	Classification	Water system								
	Distribution	Sewage processing (kg)								
	Quantity	3.29E+01								
	Note									

Notes:

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

Distribution	Means of transportation	Diesel truck:10 ton		Diesel truck:4 ton		Freight by ship		Used transportation parts Diesel truck:4 ton		
	Conditions	Loading Ratio (%w)	Load (kg･km)	Loading Ratio (%w)	Load (kg･km)	Loading Ratio (%w)	Load (kg･km)	Loading Ratio (%w)	Load (kg･km)	
	Quantity	53%	4.21E+03	73%	8.33E+02	-	1.47E+04	62%	1.66E+01	
	Note	Distance=455km		Distance=125km		Distance=3000km		Distance=60km		
consumptions and emissions/disc	Classification	Materials		Process	Process：Disposition					
	Distribution	Thermoplastic resin (kg)	Paper (kg)	Injection molding (kg)	Shredding (kg)	Incineration to landfill (as ash) (kg)				
	Quantity	2.58E-02	1.45E-01	2.58E-02	1.71E-01	1.71E-01				
	Note	Transportation parts for traffic transportation								

Notes: The land and marine transportation load from an overseas manufacture site to Japan are added up.
The transportation distance in Japan is calculated on the basis of 500 km that are the prescription value of PCR.

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

Product	Classification	Energy								
	Distribution	Electricity (kwh)								
	Quantity	3.96E+02								
	Note									

Notes: According to the PCR, the conditions are as follows:
Use mode:
1)Condition during the usage.: Operating/waiting 3.5hr/day, Days of utilization in an year 100day/yr, ･High Brightness mode
2)Condition during the OFF.:Power Cable is plugged out while not using
3)Usage periods: 5 years

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

Scenario	Classification	Diesel truck:4 ton		Process	Process	Process				
	Distribution	Loading Ratio (%w)	Load (kg･km)	Shredding (kg)	Incineration to landfill (as ash) (kg)	Landfill: General waste (kg)				
	Quantity	62%	4.73E+02	4.88E+00	3.94E+00	9.48E-01				
	Note	Distance=60km								

Notes These figures in this table mean the environmental burden when products are disposed.