Form 1 (F-01s-02)

Product Environmental Aspects Declaration

No. CA-16-027
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Apr./13/2016

Flat-bed / Sheet-fed scanner (PCR-ID: CA-01)

FUJITSU

fi-7480

Product Name	fi-7480
Product Category	Sheet-fed scanner (Without Flat-bed) For Business
Scanning Speed (A4L)	Simplex or Duplex, 80 ppm (160 ipm)
Scanning Size	305mm X 432mm
Optical Resolution	600 X 600 dpi (dots per inch)
Scanning Method	Color CCD (Charge coupled device) Image Sensor X2 (Front/Back)

http://www.fujitsu.com/
FUJITSU LIMITED

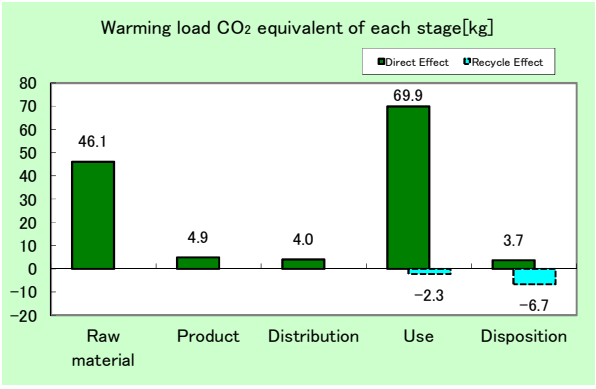
http://www.pfu.fujitsu.com/
PFU LIMITED

*** Image Scanners Contact:**
http://imagescanner.fujitsu.com/

PFU LIMITED
Imaging Service & Support center
E-mail : scanners@pfu.fujitsu.com

Consumption and discharge in a life cycle	All the stage sum totals
Global Warming (CO_2 equivalent)	128.6kg (119.6kg)
Acidification (SO_2 equivalent)	0.202kg (0.188kg)
Energy resources (crude oil equivalent)	2,569MJ (2,357MJ)

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



The burdens have been calculated with 5 scans per day, a monthly use of 20 days, and 5 years of use, for the number of scans of 6,000 times (14,400,000 pages) overall.

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.
5. The electricity consumption during power-off is entered into the calculation, presuming that the products remain plugged even if not in use.

[Supplemental environmental information]

- Certified regulations: Energy Star Version 2.0
- This product are produced in our factories certified to ISO14001 management system standard.
- Conformance with RoHS Directive (2011/65/EU).

PCR review was conducted by : PCR Deliberation Committee, June 07, 2006, 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 an business entity certified as an Ecoleaf-data-collection system, the names of certification auditors are written.

Form 2-B(F-02Bs-02)

Product Environmental Information Data Sheet (PEIDS)

Document control no.	F-02Bs-02
Product vendor	PFU LIMITED
EcoLeaf registration no.	CA-16-027

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

PCR name	Flat-bed / Sheet-fed scanner		Product type	fi-7480			
PCR code	CA-01	Product weight (kg)	7.21	Package (kg)	2.03	Weight total (kg)	9.24

In/Out items \ Life Cycle Stage					Unit	Production		Distribution	Use	Disposition	Recycle Effect
						Raw material	Product				
Energy Consumption					MJ	8.63E+02	9.27E+01	5.45E+01	1.55E+03	5.51E+00	-2.12E+02
					Mcal	2.06E+02	2.22E+01	1.30E+01	3.71E+02	1.32E+00	-5.07E+01
Inventory anaiyses	Impact by Resource Consumption	Exhaustible resources	Energy resources	Coal	kg	4.91E+00	6.24E-01	1.27E-04	7.58E+00	2.74E-02	-8.96E-01
				Crude oil (for fuel)	kg	8.99E+00	7.05E-01	1.19E+00	1.08E+01	6.94E-02	-1.86E+00
				LNG	kg	1.60E+00	3.12E-01	1.84E-02	4.93E+00	1.44E-02	-4.92E-01
				Uranium content of an ore	kg	1.62E-04	4.22E-05	8.62E-09	5.13E-04	1.85E-06	-7.21E-06
			Mineral resources	Crude oil (for material)	kg	3.67E+00	0	0	1.95E+00	0	-1.60E+00
				Iron content of an ore	kg	2.33E+00	0	0	0.00E+00	0	-9.08E-01
				Cu content of an ore	kg	2.30E-01	0	0	0	0	-1.91E-02
				Al content of an ore	kg	1.06E-01	0	0	0	0	-2.08E-02
				Ni content of an ore	kg	1.37E-01	0	0	0.00E+00	0	-1.85E-05
				C content of an ore	kg	1.85E-01	0	0	0.00E+00	0	-3.37E-04
				Mn content of an ore	kg	3.08E-02	0	0	0.00E+00	0	-7.89E-04
				Pb content of an ore	kg	8.77E-03	0	0	0	0	-1.55E-03
				Sn content of an ore	kg	0	0	0	0	0	0
				Zn content of an ore	kg	8.63E-02	0	0	0	0	-1.52E-02
				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	4.92E-01	0	0	0.00E+00	0	-1.50E-01
				Halite	kg	1.44E+00	2.49E-04	0	2.40E-04	2.21E-03	-4.31E-02
				Limestone	kg	5.88E-01	0	0	2.46E-02	3.34E-02	-1.97E-01
				Natural soda ash	kg	5.07E-02	0	0	0	0	-1.59E-02
		Renewable resources		Wood	kg	2.58E+00	0	0	5.56E+00	0	-4.00E+00
				Water	kg	3.97E+03	5.17E+02	9.63E-02	6.73E+03	2.29E+01	-2.72E+02
	Impact by Emission/Discharge to the environment	to Atmosphere		CO2	kg	4.49E+01	4.85E+00	3.86E+00	6.95E+01	3.70E+00	-8.69E+00
				Sox	kg	3.33E-02	3.70E-03	2.74E-03	4.86E-02	1.99E-03	-3.91E-03
				Nox	kg	6.09E-02	2.93E-03	2.49E-02	6.51E-02	5.11E-03	-1.44E-02
				N2O	kg	4.25E-03	5.30E-05	5.55E-04	1.53E-03	8.13E-06	-9.95E-04
				CH4	kg	4.31E-04	1.13E-04	2.30E-08	1.37E-03	4.96E-06	-1.89E-05
				CO	kg	6.37E-03	7.17E-04	7.84E-03	1.38E-02	1.14E-03	-9.56E-04
				NMVOC	kg	8.42E-04	2.21E-04	4.52E-08	2.69E-03	9.72E-06	-3.71E-05
				CxHy	kg	2.01E-03	1.16E-05	6.56E-04	7.49E-04	3.61E-05	-5.02E-04
				Dust	kg	6.47E-03	1.59E-04	2.24E-03	3.69E-03	3.15E-04	-1.40E-03
		to Water system	to Water domain	BOD	kg	-	-	-	-	-	-
				COD	kg	-	-	-	-	-	-
				N total	kg	-	-	-	-	-	-
				P total	kg	-	-	-	-	-	-
				SS	kg	-	-	-	-	-	-
		to Soil system		Unspecified Solid Waste	kg	4.91E-01	1.62E-03	0	9.55E-01	2.76E+00	1.92E+00
				Slag	kg	8.77E-01	0	0	0.00E+00	0	-2.92E-01
				Sludge	kg	1.12E-01	0	0	0	0	-4.47E-02
				Low level radio-active waste	kg	1.13E-04	2.95E-05	6.03E-09	3.58E-04	1.29E-06	-5.04E-06
Impact assessment	by Resource Consumption	Exhaustible resources		Energy resources (crude oil equivalent)	kg	1.54E+01	1.83E+00	1.21E+00	2.58E+01	1.19E-01	-3.08E+00
				Mineral resources (Iron ore equivalent)	kg	1.59E+02	0	0	1.07E+00	0	-7.61E+00
	by Emission / Discharge to environment	to Atmosphere		Global Warming (CO2 equivalent)	kg	4.61E+01	4.86E+00	4.01E+00	6.99E+01	3.70E+00	-8.96E+00
				Acidification (SO2 equivalent)	kg	7.60E-02	5.75E-03	2.02E-02	9.41E-02	5.57E-03	-1.40E-02
				-	-	-	-	-	-	-	-
				Photochemical Oxidant	kg	3.80E-03	1.63E-04	1.18E-03	2.94E-03	1.49E-04	-7.88E-04
		to Water system		-	-	-	-	-	-	-	-

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. CO_2 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]

1. Regarding the "Raw material" production, the environmental burdens of resource mining, transportation and raw material production for the main unit, accessories and packaging materials are calculated using the EcoLeaf basic unit.
2. In "Product" production, for parts processing, the environmental burden is calculated using the EcoLeaf basic unit and production site data.
   For Parts/material C assembled at other than the main unit assembly site, the burden is calculated using the EcoLeaf basic unit (Assembly).
3. The "Distribution" stage basic conditions and basic unit are in accordance with the provisions of PCR.
   The burdens are calculated with 500km for the total domestic transportation distance.
   For transportation from Indonesia, the burdens of transporting by truck and sea are entered into the calculation.
4. The "Use" stage basic conditions and basic unit are in accordance with the provisions of PCR.
   The burdens of electricity consumption, consumables production and transportation are calculated with the total scanning number of 14,400,000 sheets in the customer use period of 5 years.
   The electricity consumption during power-off is entered into the calculation, presuming that the products remain plugged even if not in use.
   Based on the recycling scenario established at our company, the recycling burden is calculated with the 40 % part recovery rate for the consumables that the customer uses.
   For the 60% non-recovery rate, the burden is calculated by using the General Waste Disposal Scenario.
   For the manual and packaging box for consumables, the recycling burden is calculated by setting up the Open Recycling Scenario.
5. At the "Disposition/Recycle" stage, in accordance with the provisions of PCR, the recycling scenario is established at our company.
   The recycling burden is calculated with the 40% product recovery rate from the customer. For the 60% non-recovery rate, the burden is calculated by using the General Waste Disposal Scenario.
   For manuals, packaging boxes and cushioning materials, the recycling burden is calculated by setting up the Open Recycling Scenario.
6. Regarding "Recycle Effect", the burdens accompanying the production of raw materials using the materials recycled from the parts are deducted.

Form 3(F-03s-02)

Product data sheet

(Input data and parameters for LCA)

Document control no.	F-03s-02
Product vendor	PFU LIMITED
EcoLEaf registration no.	CA-16-027

PCR name	Flat-bed / Sheet-fed scanner (PCR-ID: CA-01)	Product type	fi-7480				
LCA/LCIA in units of:	1 unit	Product weight (kg)	7.21	Package (kg)	2.03	Weight total (kg)	9.24

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	Ordinary steel	1.33E+00	Thermoplastic resin	4.03E+00	Press molding:Iron (kg)	2.22E+00	Parts assembly (kg)	9.70E-01
	SUS	8.64E-01	Rubber	7.00E-02	Press molding: Nonferrous metal (kg)	4.31E-01		
	Other metals	1.58E-01	Wood	2.08E-03	Injection molding (kg)	3.84E+00		
	Aluminum	4.92E-02			Glass molding (kg)	4.81E-01		
	Glass	4.75E-01						
	Semiconductor substrate	4.37E-01						
	Medium-sized motor	6.13E-01						
	Paper	1.21E+00						
	Subtotal	5.13E+00	Subtotal	4.10E+00				
	Total			9.24E+00	Subtotal	6.97E+00	Subtotal	9.70E-01

Note The environmental burdens of the main unit, accessories and packaging materials are included.

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

SOx and NOx should be indicated in SO_2, NO_2 equivalent.

Consumption	Classification	Energy	Material						
	Distribution	Electricity (kWh)	Industrial water (kg)						
	Quantity	3.62E+00	4.29E+01						
	Note								
Emission / Discharge	Classification	Water system							
	Distribution	Sewage processing (kg)							
	Quantity	4.29E+01							
	Note								

Note The burdens of mounting parts on printed circuit boards, air conditioners, electric lights, electric tools and test equipment at the product production site are included.

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

Distribution	Means of transportation	Diesel truck: 10 ton (kg·km)	Diesel truck: 10 ton (kg·km)	Diesel truck: 10 ton (kg·km)	Diesel truck: 10 ton (kg·km)	Freight by ship (kg·km)	Freight by ship (kg·km)	Freight by ship (kg·km)	Freight by ship (kg·km)
	Conditions	Mass(kg)	Distance (km)	Loading Ratio(%w)	Load(kg·km)	Mass(kg)	Distance (km)	Loading Ratio(%w)	Load(kg·km)
	Quantity	9.24E+00	1.46E+01	5.74E+01	2.35E+02	9.24E+00	2.69E+01	1.00E+02	2.49E+02
	Note								
	Means of transportation	Freight by ship (kg·km)	Freight by ship (kg·km)	Freight by ship (kg·km)	Freight by ship (kg·km)	Diesel truck: 10 ton (kg·km)	Diesel truck: 10 ton (kg·km)	Diesel truck: 10 ton (kg·km)	Diesel truck: 10 ton (kg·km)
	Conditions	Mass(kg)	Distance (km)	Loading Ratio(%w)	Load(kg·km)	Mass(kg)	Distance (km)	Loading Ratio(%w)	Load(kg·km)
	Quantity	9.24E+00	5.41E+03	1.00E+02	5.00E+04	9.24E+00	4.25E+01	5.74E+01	6.84E+02
	Note								
	Means of transportation	Diesel truck: 4 ton (kg·km)	Diesel truck: 4 ton (kg·km)	Diesel truck: 4 ton (kg·km)	Diesel truck: 4 ton (kg·km)				
	Conditions	Mass(kg)	Distance (km)	Loading Ratio(%w)	Load(kg·km)				
	Quantity	9.24E+00	5.00E+02	4.10E+01	1.13E+04				
	Note								

Note In accordance with the provisions of PCR, the burdens are calculated with 500km for the total domestic transportation distance.
For transportation from Indonesia, the burdens of transporting by truck and sea are entered into the calculation.

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	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Condition	Condition
	Distribution	POM (polyacetal) (kg)	Nitrile-butadiene rubber (NBR) (kg)	Paper (Western style)	Injection molding (kg)	Parts assembly (kg)	Electricity (kWh)	Diesel truck: 10 ton (kg·km)	Freight by ship (kg·km)
	Quantity	1.16E+00	1.30E+00	2.43E+00	2.46E+00	2.46E+00	1.28E+02	1.24E+02	1.31E+02
	Note								
	Classification	Condition	Condition	Condition	Condition	Condition			
	Distribution	Freight by ship (kg·km)	Diesel truck: 10 ton (kg·km)	Diesel truck: 4 ton (kg·km)	Diesel truck: 2 ton (kg·km)	Diesel truck: 2 ton (kg·km)			
	Quantity	2.64E+04	3.61E+02	5.95E+03	1.69E+02	1.69E+02			
	Note								

Note In accordance with the provisions of PCR, the burdens of electricity consumption, consumables production and transportation are calculated with the total scanning number of 14,400,000 sheets in the customer use period of 5 years.
The electricity consumption during power-off is entered into the calculation, presuming that the products remain plugged even if not in use.

4.2 Disposition/Recycle information on consumables and replacement parts

Consumables	Classification	Process	Process	Consumption	Consumption	Process	Deduction	Process	Process
	Distribution	Shredding (kg)	Incineration to landfill (as ash) (kg)	Electricity (kWh)	Diesel oil as fuel (kg)	Recycle: to Thermoplastic pellet (kg)	POM (polyacetal) (kg)	Sorting: Nonferrous metal (by eddy current with wind force) (kg)	Recycle: to corrugated cardboard (kg)
	Quantity	5.86E+00	1.94E+00	1.83E-01	1.61E-03	4.18E-01	4.18E-01	1.96E+00	1.25E+00
	Note								
	Classification	Deduction	Process						
	Distribution	Corrugated cardboard (kg)	Landfill: Industrial waste (kg)						
	Quantity	1.25E+00	1.27E+00						
	Note								

Note Based on the recycling scenario established at our company, the recycling burden is calculated with the 40 % part recovery rate for the consumables that the customer uses.
For the 60% non-recovery rate, the burden is calculated by using the General Waste Disposal Scenario.
For the manual and packaging box for consumables, the recycling burden is calculated by setting up the Open Recycling Scenario.

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

Scenario	Classification	Process	Process	Process	Consumption	Consumption	Process	Deduction	Process
	Distribution	Shredding (kg)	Landfill: General waste (kg)	Incineration to landfill (as ash) (kg)	Electricity (kWh)	Diesel oil as fuel (kg)	Recycle: to cold-rolled steel (kg)	Cold-Rolled steel plate (kg)	Recycle: to copper plate (kg)
	Quantity	7.33E+00	2.35E+00	2.63E+00	3.69E-01	3.26E-03	8.76E-01	8.76E-01	6.33E-02
	Note								
	Classification	Deduction	Process	Deduction	Process	Deduction	Process	Deduction	Process
	Distribution	Copper plate (kg)	Recycle: to Aluminum plate (kg)	Aluminum plate (kg)	Recycle: to Glass (kg)	Glass (kg)	Recycle: to Thermoplastic pellet (kg)	ABS (kg)	Sorting: Nonferrous metal (by eddy current with wind force) (kg)
	Quantity	6.33E-02	1.97E-02	1.97E-02	1.90E-01	1.90E-01	1.47E+00	1.34E+00	9.78E-01
	Note								
	Classification	Process	Deduction	Process	Deduction	Process	Condition	Condition	Condition
	Distribution	Recycle: to corrugated cardboard (kg)	Corrugated cardboard (kg)	Sorting:Plastics (by relative density difference in water) (kg)	Polystyrene (kg)	Landfill: Industrial waste (kg)	Diesel truck: 2 ton (kg·km)	Diesel truck: 2 ton (kg·km)	Diesel truck: 2 ton (kg·km)
	Quantity	6.25E-01	6.25E-01	1.97E-01	1.23E-01	1.02E+00	5.32E+02	8.43E+01	1.70E+01
	Note								

Note Based on the recycling scenario established at our company, the recycling burden is calculated with the 40% product recovery rate from the customer.
For the 60% non-recovery rate, the burden is calculated by using the General Waste Disposal Scenario.
For manuals, packaging boxes and cushioning materials, the recycling burden is calculated by setting up the Open Recycling Scenario.

6. Others

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.
Followings are the list of the basic units used in this LCA. The sources of these basic units are disclosed in the EcoLeaf Environmental Label LCI Common Basic Unit List (V2.1)
(URL:http://www.ecoleaf-jemai.jp/application/data/basicunit_en20150601.pdf).

1. Product information Section

Material name	No.	Basic Unit Name	Field
Ordinaly steel	1	Cold-Rolled steel plate	Material Production (Metal)
	2	Electroplated steel Plate	
SUS	6	Stainless Steel Plate	Material Production (Metal)
Other Metal	7	Copper plate	Material Production (Metal)
Aluminum	8	Aluminum plate	Material Production (Metal)
Glass	16	Glass	Material Production (Inorganic Chemistry)
Semiconductor substrate	76	Assembled circuit board	Parts Production (General)
Medium-sized motor	78	Medium-sized motor	Parts Production (General)
Paper	67	Corrugated cardboard	Material Production (Wood and Paper)
	69	Paper (Western style)	
Thermoplastic resin	27	Low density polyethylene	Material Production (Synthetic Resin)
	28	Polypropylene	
	29	Polystyrene	
	30	PVC	
	32	Polycarbonate	
	34	POM (Polyacetal)	
	36	ABS	
	38	MMA Resin	
	39	PA66 (Polyamide 66)	
	40	PET	
	42	Expandable hardpolyurethane (Hard)	
	43	Expandable softpolyurethane (forautomobile)	
Rubber	48	Nitrile-butadiene rubber(NBR)	Material Production (Rubber)
	49	Styrene-butadiene rubber(SBR)	
Wood	71	Wood chip (imported)	Material Production (Wood and Paper)

Process name	No.	Basic Unit Name	Field
Press molding:I ron (kg)	85	Press molding : Iron	Processing
Press molding:N onferrous metal (kg)	86	Press molding : Nonferrous metal	
Injection molding (kg)	87	Injection molding	
Glass molding (kg)	89	Glass molding	
Parts assembly (kg)	90	Parts assembly	Assembly

2. Production site information Section ~ 5. Disposition/Recycle stage information Section

No.	Basic Unit Name	Field
1	Cold-Rolled steel plate	Material Production (Metal)
2	Electroplated steel Plate	
6	Stainless Steel Plate	
7	Copper plate	
8	Aluminum plate	
16	Glass	Material Production (Inorganic Chemistry)
27	Low density polyethylene	Material Production (Synthetic Resin)
28	Polypropylene	
29	Polystyrene	
30	PVC	
32	Polycarbonate	
34	POM (Polyacetal)	
36	ABS	
38	MMA Resin	
39	PA66 (Polyamide 66)	
40	PET	
42	Expandable hardpolyurethane (Hard)	
43	Expandable softpolyurethane (forautomobile)	
48	Nitrile-butadiene rubber(NBR)	Material Production (Rubber)
49	Styrene-butadiene rubber(SBR)	
67	Corrugated cardboard	Material Production (Wood and Paper)
69	Paper (Western style)	
71	Wood chip (imported)	
76	Assembled circuit board	Parts Production (General)
78	Medium-sized motor	
85	Press molding : Iron	Processing
86	Press molding : Nonferrous metal	
87	Injection molding	
89	Glass molding	
90	Parts assembly	Assembly
99	Electricity	Electric Power and Fuel
101	Diesel oil as fuel	
125	Industrial water	Utility (Water)
129	Shredding	Disposal and Recycling (Crushing and Sorting)
130	Sorting:Iron(by magnetic force)	
131	Sorting: Nonferrous metal(by eddy current with windforce)	
132	Sorting: Plastics (by relativedensity difference in water)	
133	Incineration to landfill(as ash)	Disposal and Recycling (Incineration and Landfill)
134	Incineration: Industrial waste	
136	Landfill: General waste	
137	Landfill: Industrial waste	
138	Recycle: to cold-rolled steel	Disposal and Recycling (Regeneration)
139	Recycle: to copper plate	
140	Recycle: to Aluminum plate	
141	Recycle: to Thermoplasticpellet	
142	Recycle: to corrugatedcardboard	
144	Recycle: to Paper	
145	Recycle: to Glass	
146	Sewage processing	Disposal and Recycling (Other)