Electrophotographic Dry Process Photocopier (PSC-ID: AA)

2002/6/13 rev. 1

Note: Requirements here are for development of EcoLeaf™ environmental labels. Use for any other purposes without consent of EcoLeaf™ program office is strictly prohibited.

No.	Major key	Minor key	Class	Requirements
1	Preconditions	Target product	Description	A photocopier by electrophotographic dry process technology, which is in compliant to an article 7-5 of the Japanese law concerning the rational use of energy. Color copiers and multi-function products are not eligible for this PSC.
2			Items to cover	Items listed below should be included to the scope. Photosensitive drum, Toner and Carrier or, all-in-one process cartridge. - All packing materials - Manuals
3		LCA	Target life cycle stages (Boundary setting)	Every life-cycle stages defined under PEIDS of EcoLeaf program: Production, Distribution, Use and disposition/Recycle
4	Product Data Sheet (P.D.S.) Input data for the LCI: Life Cycle Inventory analyses	Production stage information (Product itself)	Materials and/or ingredients of the product	I. Parts treated as the class "A" (A parts, which environmental impact information for processing and assembly at final production site of, must be obtained.) A. Drum 1. Manufacturing of base cylinder a. Energy consumption data should be collected by reporting organization. b. Use basic unit item listed at sec. 14, should the data be not available. 2. Downstream processes to coating Data should be collected directly. B. Toner Energy consumption data should be collected by reporting organization. C. Carrier Same as item B. above. Material composition data should be collected in level of materials listed in its MSDS. II. Materials input - Use mass data of the product produced. - Over 90% of materials should be classified by its type. - The balance should be prorated to make total as 100%. III. Materials to be listed Following eleven items should be listed. - Ordinary steel - Stainless steel - Aluminum - Other metals - Thermoplastic resin - Heat-hardening resin - Rubber - Glass - Paper - Circuit board with semiconductor parts - Wood Other materials should be listed in name of common basic units provided.
5	Product Data Sheet (P.D.S.) Input data for the LCI: Life Cycle Inventory	Production stage information (Production site)	Materials and Energy for input/consumption and discharge/emission	I. Items consumed - Electricity -Heavy oil -Diesel oil -Coal oil -Gasoline -LNG

<table>
<tr><th>No.</th><th>Major key</th><th>Minor key</th><th>Class</th><th>Requirements</th></tr>
<tr><td></td><td>analyses</td><td></td><td></td><td>-Drinking water
-Industrial water
-Ground water

II. Energy composition data to produce Class A Parts
Should be tracked back to the level of materials listed in its MSDS.

III. Items discharged/emitted
Not specified. List items considered important by reporting organization.

IV. Environmental impacts by distribution of input materials and energy
Not considered

V. Byproducts (valuables) and industrial wastes within production stage
Not considered</td></tr>
<tr><td>6</td><td>Product Data Sheet (P.D.S.)

Input data for the LCI: Life Cycle Inventory analyses</td><td>Distribution stage information</td><td>Product transportation</td><td>I. Transportation methods, loading ratio (%):
Use independent model by reporting organization.

II. Overall distribution distance to user location:
Set as 100 km

III. Disposition/Recycle of packing materials should be considered.</td></tr>
<tr><td>7</td><td>Product Data Sheet (P.D.S.)

Input data for the LCI: Life Cycle Inventory analyses</td><td>Use stage information</td><td>Conditions</td><td>I. Condition
A. Measurement should be done in compliance to a notification # 193 of Japanese METI, dated March 31, 1999, based on the Law concerning the rational use of energy.
B. Scenarios on use of consumables and maintenance should be set by reporting organization independently, based on actual results.
C. Term of use is set to five years, and copy volume in the term should be as listed below, following to the notification # 193.

<table>
<tr><td>Copier Class</td><td>Low1</td><td>Low2</td><td>Med.1</td><td>Med.2</td><td>High1</td><td>High2</td></tr>
<tr><td>copy/min</td><td>1-10</td><td>11-20</td><td>21-30</td><td>31-40</td><td>41-60</td><td>61-85</td></tr>
<tr><td>copy/hour</td><td>2</td><td>10</td><td>30</td><td>50</td><td>100</td><td>300</td></tr>
<tr><td>copy/month</td><td>320</td><td>1600</td><td>4800</td><td>8000</td><td>16000</td><td>48000</td></tr>
<tr><td>5 years (x 100)</td><td>19.2</td><td>96</td><td>288</td><td>480</td><td>960</td><td>2880</td></tr>
</table>

II. Environmental impact on copying paper, which is used at Customer Use stage is not counted in this PSC

III. Periodical replacement parts and consumables
A. Subject: Items listed in maintenance plan.

B. Number of items used: In five years term. Fraction should be rounded up.

Distribution: Scenario should be designed by reporting organization independently, based upon its maintenance plan.</td></tr>
</table>

No.	Major key	Minor key	Class	Requirements
8	Product Data Sheet (P.D.S.) Input data for the LCI: Life Cycle Inventory analyses	Disposition and Recycle stage	Conditions	I. Overall scenario setting Use an exhibit "Scenario for used product disposition/recycle ". Following items should be set individually, by reporting organization. A. Scenario for collection, including transportation. B. Recovery ratio - Parts reuse - Material recycle C. Disposition scenario for un-recovered items II. Screening criteria of reusable/recyclable Set individually. III. Collection ratio (consider parts collection ration as same.) Use 100%, or actual data. IV. Deduction by product reuse Set number of product reuse N_1 beyond initial five years of use. Consider N_1 as a counting number. Deduction by product reuse = Design figure on amount of product reuse x collection ratio x deduction ratio $N_1/(N_1+1)$ IIV. Deduction by parts reuse Set number of parts reuse N_2, and total number of parts used n, for initial five years of use. Consider N_2 and n as counting numbers. Environmental load on parts used = Load of production per piece x n Deduction by parts reuse = Design figure on amount of parts reuse x Collection ratio x deduction ratio $N_1/(N_1+1)$ x total number of parts used n IIIV. Counting criteria of un-recovered products and parts Use an exhibit "Scenario for used product disposition/recycle ". IIIIV. Coefficient of quality on recycled/reused items Use an exhibit "Scenario for used product disposition/recycle ". A. Z = "1" in case of reuse. B. "0.5" in case of metal recycle C. "0.35" in case of other recycle
9	Product Environmental Information Declaration Sheet (P.E.I.D.S.)	Inventory analyses	Life Cycle Inventory calculation rules	Exceptional treatment In case that actual data collection at production site is impossible Calculate the environmental impact of production system, by doubling the Basic Unit for "Assembly" process times math of the product. Special note must be added in this case – see Sec. 9-2 for details.
10	Product Environmental Information Declaration Sheet (P.E.I.D.S.)	Impact analyses	Additional impact category	Excludes "Ozone layer destruction", "Eutrophication" and "Photochemical oxidant".

No.	Major key	Minor key	Class	Requirements
11	Breakdown data sheet (Product DS related)	Data processing	Allocation rule	No unified rule is set. Set as needed by reporting organization.
12	Breakdown data sheet (Product DS related)	Data collection	Coverage	Reasonable substitution by design specification, business plan, and/or data including Basic Unit can be used for data, if actual data to measure has not been available since the target product is newly launched.
13	Breakdown data sheet (Product DS related)		Cut-off rules	Specify if a cut-off rule is adopted (for environmental impact by assembly, etc.), with its ground
14	Breakdown data sheet (PEIDS related)	Database	Application rule of EcoLeaf Unified Basic Units	Item name > EcoLeaf Basic Unit to use I. Parts purchased > Parts assembly II. Material of photosensitive drum > Al plate III. Ferric oxide > Cold-rolled steel Note: Independent basic unit can be adopted if available. IV. Base cylinder processing of the drum > Non-metal press Note: Names of base units are from EcoLeaf Basic Unit list.
15	Breakdown data sheet (PEIDS related)	Database	Addition of Basic Unit	None
16	Breakdown data sheet (PEIDS related)	Database	Addition of Characterization factor	None
17	PEAD	Section C	Product specification	I. Copy speed II. Max. copy size III. Additional functions for this declaration
18	PEAD	Section E	Items to list	I. Items to list ”Global warming impact” ”Acidification impact” ”Energy consumption” II. Stages to report Set accordingly. III. Life of the product Specify the term of life in years and total copy volume in sheets/A4 IV. Presentation technique Text, Table, Chart can be used accordingly.
19	PEAD	Supplemental environmental information		Followings can be listed as 3rd party declarations acquired. I. Environmental labels type I or III II. ISO 14000 certification III. Certifications, authorizations, and/or recognitions by government body or individual consortium IV. Use of harmful materials.